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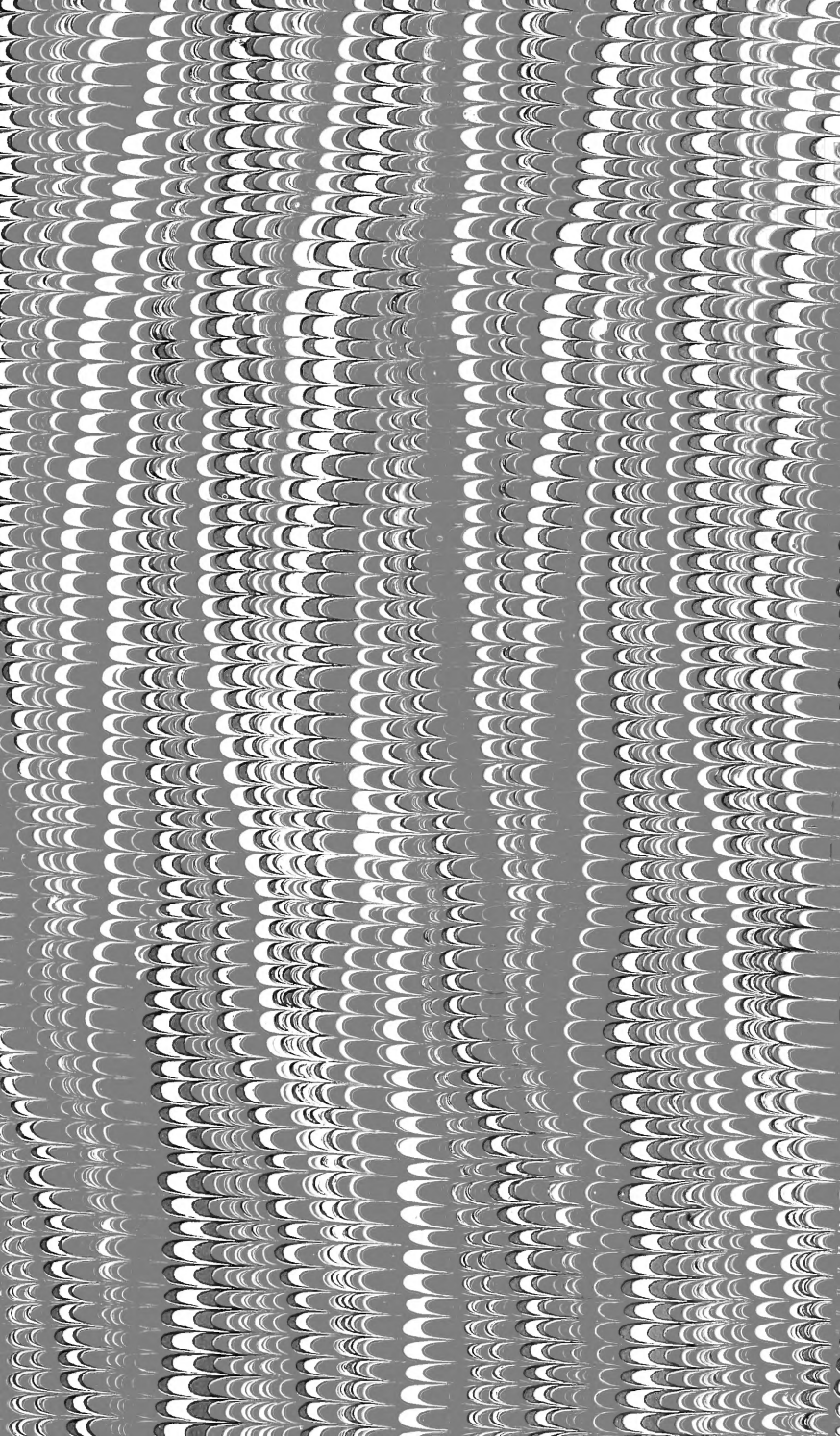
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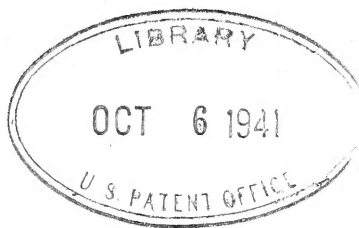


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THE

GARDENER'S MAGAZINE,

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OF

RURAL AND DOMESTIC IMPROVEMENT:

COMPRISING

TREATISES ON LANDSCAPE GARDENING,
ARBORICULTURE, FLORICULTURE, HORTICULTURE,
AGRICULTURE, RURAL ARCHITECTURE,
GARDEN STRUCTURES,
PLANS OF GARDENS AND COUNTRY RESIDENCES,
SUBURBAN VILLAS, &c.

ALSO

LISTS OF NEW AND RARE PLANTS, FRUITS AND VEGETABLES.

CONDUCTED BY

J. C. LOUDON, F.L.S. H.S. &c.

AUTHOR OF THE ENCYCLOPÆDIAS OF GARDENING, OF AGRICULTURE, &c.

VOL. I.

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PREFACE.

THIS Eleventh Volume of the *Gardener's Magazine* we have thought it advisable to indicate as the first of a Second Decade, or Series, not to mark it as one where new subscribers may commence taking the work, but also because in this Second Decade we mean to introduce the following improvements:—

With the last Number of every year we shall give a *General* of the *Progress of Gardening, Agriculture, Rural Architecture, Domestic Economy, and Rural and Domestic Improvement generally*, of the past year, not only in Britain, but in other countries. The first of these Retrospective Views will be found at p. 609. of the present volume.

Occasional articles to be headed *Pomological Notices, Olitoria* ces, and *Arboricultural Notices*, for the purposes stated in the preface to our Tenth Volume. Specimens of these articles will be found at p. 30. 39. and 148. of the present volume.

We have made what we consider a *great improvement in the Table of Contents and in the Index*. We have given the contents in much greater detail, so as to include the heading of every paragraph constituting the Miscellaneous Intelligence, and the title of every book, reviewed or noticed in the Catalogue, as well as that of those noticed under the head of Reviews. Instead of a General Index, we have given a Specific Index to the Plants; which will be found particularly useful, and will render a General Index unnecessary. We have placed the index immediately after the Table of Contents, so that the reader will have all the sources of reference to the volume at its commencement, instead of a part at the beginning and a part at the end, as heretofore. After the experience of ten years, during which we have had almost daily occasion to refer to the *Gardener's Magazine*, we can assert with perfect confidence that these changes will greatly facilitate reference. This the reader may prove, by comparing the Contents and Index which immediately follow this preface with those of former volumes.

4. With the Twelfth Volume we intend to commence a *series of Articles on Cookery*, and chiefly on vegetable cookery, with a view to the improvement of the tables of labourers, gardeners, cottagers, and the middling classes. We are persuaded that, from ignorance and inattention to this subject, the labouring classes, gardeners, and others, of this country, are deprived of many comforts, which they might enjoy, not only without any additional expense, but absolutely at less cost than they now incur for a wretched, and, at the same time, extravagant, mode of dressing provisions in some cases, and of choosing their food in others.

J. C. L.

Bayswater, Nov. 15. 1835.

LIST OF CONTRIBUTORS.

- A. C., 230. 323. A. J., 108, 109. A. S., 47. 71. A. Constant Reader, 359. A. Gardener, 154. A. Journeyman Gardener, 154. A. Member of the Metropolitan Society of Florists, 433. A. Practitioner, 191. A. Proprietor of Timber Trees in Kent and in Hampshire, 437. A. Young Gardener, 449. Agronomer's Nephew, 604. Alexander, James, 361. 467. Amateur, 213. Anderson, W., F.L.S., H.S., &c., 247. Anon., 71. 471. Arniston, James B., 112.
- B., 44. B. G. 153. B. P. and S. B., 206. B. R. H., 720. Backhouse, James, 338. Backhouse, Thomas, 570. Bateman, James, F.L.S., H.S., &c., 1. Baxter, W., A.L.S., F.H.S., &c., 545. Beaton, D., 580. 582. Booth, John, 207. Bourgeois, 206. Bree, Rev. W. T., 156. 536. 551. Burgess, Arthur, 489. Byers, Robert, F.H.S., 269.
- C., 360. C. G. M., 552. 607. Calycanthus, 91. 290. Cameron, David, A.L.S., 689. Chalmers, William, 584. Chamberlain, R. Dyneley, 105. Charlwood, George, F.L.S., H.S., 225. Cicestriensis, 605. Clark, Thomas, 250. Conductor, 57, 161. 631. 329. 395. 412. 441. 497. 518. Conductor, and Varden, Richard, 518.
- D. D. and J. D., 160. 683. D. N. R., 545, 546. Dall, James, 323. 359. Dargavell, William, 122. Deans, James, 107. Denson, John, A.L.S., 301. Don, D., Lib. L. S., 421. Dring, Samuel, 157. Dymock, W. G., 249.
- E. B., 19. E. P., 208. E. S., 359. Elliot, G. M., 52. 553. Errington, Robert, 342.
- Fish, R., 362. 493. 558. 602. Fleming, Capt. R. H., 208. Floretus, 237. Forrest Thomas, 680. Forsyth, Alexander, 20. 254. 462. 562. Freeman, S., 384.
- G., 585. G. C., 55. 110. 159. 214. 271. 328. 384. 440. 496. G. G., 40. G. H., 46. Gardiner, William, jun., 106. Garvie, W. 51. Gathell, William, 153. Gibbs, Humphrey, 321. Glendinning, R., 51, 52. 70. 136. 233. 549. 551. Gordon, G., 40. Gorrie, A., F.H.S., C.H.S., &c., 175. Gott, J., 104. Graham, Dr., F.L.S., &c., 73. 75.
- H., 152. 360. H. B., 381. H. P., 252. Harrison, Rev. Matthew, 48. Hartwell, George, E., 483. Harvey, John, 680. Henchman, John, 113. 137. W. Hertz, 488. 104. Hines, John, 48. Hislop, J., 11. Hogg, Alexander, H., 362. Howden, John, 15. 133. Huthwaite, F., 537.
- J., 380. J. A. K., 690. J. B., 43. 50. 108. 150. J. B. W., 186. 278. 549. 605. J. C., 108. J. D., 26. 43. 56. 74. 108, 109. 153. 155. 264. 373. 375. 424. 580. 582. 584. 593. J. L., 692. J. M., 45. 368. 484. J. P., 435. J. S., 108. J. T. B., 46. J. W. C., 438. J. W. D., 265. J. W. L., 564. Juvenis, 156.
- Kerr, William, 552.
- L. O'L., 434. L. W. D., 359, 360. Lancastriensis, 284. Lambert A. Bourke, F.R.S., Pres. L.S., &c., 584. 680. Lander, S., 372. Le Candele, J., 540. Lindsay, T. M., 430, 431. 490. Llandoverly, E., 438. Loch, James, M.P., 17. Loudon, James, 691. Loundes, H., 536. Lowndes, R., 690. Lowndes, W., 691.
- M., 678. M. C., 212. 547. M. C. R., 248. M. F., 53. M. H., 380. M. S., 325. M. T., 268. M'Elroy, J. F., 212. Mac Glashan, Thomas, 210. 212. Mackay, J. T., F.L.S., &c., 438. Mackay, Donald, 106. Mackie, F., 208. Maddison, John, 104. 217. 273. Main, J., A.L.S., 204. Mallet, R., 50. 684. Manetti, G., 639. Marnock, R., 437. 603. Mearns, John, F.H.S., 492. Milne, John, 547. Morris, 466. Munro, James, 416. 517.
- N. W. G., 211. Neill, P., L.L.D., &c., 432.
- Ogle, H. C., 47. Oileus abscissus, 157. 323. Otto, 543.
- P. D., 44. P. N., 432. 679, 680. Page, William, Bridgewater, C.M.H.S., 322. Palmer, Thomas Carey, F.H.S., &c., 233. Parks, J. D., F.H.S., 494. Patrick, Andrew, 12. Paxton, Joseph, F.L.S., H.S., 385. Penny, George, F.H.S., 268. Phillips, J., 688. 690. Pince, Robert T., 127. Pope, John, and Sons, 546. 549. Pratt, Henry, 134. Press, Thomas, jun., 69.
- R., 379. R. C., 564, 565. R. F., 56. 676. R. H. F., and Mayes, Martin, 359. R. K. C., 151. 482. R. T. 698. Reeves, J., F.R.S., L.S., H.S., and Z.S., 112. 171. 438. Reid, James, 209. Rinzi, J., jun., 265. 544. Rivers, T., jun., 24. Robertson, J., F.H.S., 64. 173. 211. Rowland, A., 548. Rutter, T., 13. 66. 118. 435. 459. 469. 509. 513. 548. 561. 602.
- S. S., 52. S. T., jun., 359. Saul, M., 48. 152. 154. 601. Scientiæ et Justiciæ Amator, 60. 602. Selim, 63. Sharman, John, 45. Shuttleworth, Charles, 605. Smith, F. W., 425. Strangways, W. F., 74. Staunton, Sir George Thomas, F.R.S., A.S., &c. 111.
- T. D. G., 360. T. G., 180. T. H. B., 108. T. J. D., 692. Taylor, William, 7. 155. 178. Thom, William, 350. Thompson, Robert, 31. Toward, Andrew, 360. Trevelyan, W. C., F.A.S., &c., 49. 209. Turner, Henry, 46. Tyro, 352.
- Vilmorin, M., 42. 53. 157. 212. 688.
- W. B., 359. W. B. B., 272. W. C., 211. 683. W. C. D., 53. W. L., 680. W. L. G., 677. W. P. A., 154. W. R., 213. W. S., 280. W. S. B., 321. W. T., 153. W. T. B., 53. W. O., 160. Ward, John, F.L.S., &c., 44. Watterton, C., 155. Whitlaw, C., 682.
- Young, William, 361

CONTENTS.

ORIGINAL COMMUNICATIONS.

GENERAL SUBJECT.

A general View of the Progress made in Gardening, Agriculture, and Rural Improvement generally, in Britain, and throughout the World, during the past Year. By the Conductor.	
Gardening as an Art	- 611
Statistics of Gardening	- 619
Rural Improvement generally	- 623
Gardening and Rural Improvement in foreign Countries	- 628
Notes on Gardens and Country Seats, visited, from July 27. to September 16., during a Tour through Part of Middlesex, Berkshire, Buckinghamshire, Oxfordshire, Wiltshire, Dorsetshire, Hampshire, Sussex, and Kent. By the Conductor	- 57. 161. 329. 441
Notes made during a Tour to Chertsey, Woking, Bagshot, Reading, Farnham, Milford, Dorking, and Epsom, between the 12th and 22d of August, 1835. By the Conductor	- 497
Notes on Gardens in Inverness-shire. By Mr. Elliot	- 553
Notices of the State of Gardening in Part of France, as observed during an Excursion in that Country in the Months of April and May, 1834. By Mr. George Charlwood, Seedsman, Covent Garden.	- 225
Observations on the Gardening of Belgium, with incidental Remarks on its Rural and Domestic Economy; extracted from Notes made during a Six Years' Residence in the Country. By John Maddison, Esq., of Wondelghem, near Ghent	- 217. 273
Historical Notes on Ornamental Gardening in Lombardy, particularly as relates to the Introduction of Foreign Trees and Shrubs in the Garden of Monza. By Signori Giuseppe Manetti, Director and Lecturer on Botany of that Garden	- 639
A brief account of Mr. Colley's Botanical Researches in Guiana. By James Bateman, Esq., F.L.S. H.S. &c.	- 1
An Excursion, in search of Orchideæ, up the River Masseroni, which falls into the Essequibo about a Hundred Miles from its Mouth. By Mr. John Henchman	- 113
Some Remarks on the Roots and other indigenous Esculents of Van Diemen's Land. By Mr. James Backhouse, Nurserymen, York	- 338
On the Influence exercised by the Employers of Artists on Art. By Calycanthus	- 9
Remarks on the Temper in which Discussions are sometimes carried on, wherein the object is Victory for one of the Parties, rather than the Ascertaining of Truth. By Mr. R. Fish	- 558
Suggestions for a Society for promoting the Improvement of the Public Taste in Architectural and Rural Scenery. By W. S.	- 280
On mixing Herbaceous Flowering Plants with Trees and Shrubs. By the Conductor	- 412
On the Vegetable Excretions of Plants. By J. B. W.	- 278
Remarks on the Advantages of having a Reserve Garden. By Mr. Robert Errington	- 342
Hints on the Utility of Mensuration to Gardeners. By Mr. William Taylor	- 7
Remarks on Grafting, and more particularly on Summer Grafting. By William Thom, Esq., Surgeon, Annan	- 350
Notice of an Improved Garden Pot. By Thomas Carey Palmer, Esq., F.H.S. &c.	- 235
On the Improvement of the Gardens attached to Farm-Houses. By Mr. J. Hislop	- 11
On Cottage Allotments. By Selim	- 63
Flowers and Fruit. By A. C.	- 230

LANDSCAPE-GARDENING.

On Laying out Public Gardens and Promenades. By the Conductor.	
Public Promenades	- 650
Public Parks	- 652
Scientific Public Gardens	- 654
Landscape Gardens	- 662
Gardens for Recreation and Refreshment	- 666
Gardens for Burial	- 667
Plan for laying out the Grounds of a Suburban Villa of Nine Acres; including the Ground Plan of the principal Floor of the House, and the Plans of the different Outbuildings. By Richard Varden, Esq., Architect and Landscape-Gardener	- 669
Design for the Pleasure-Grounds, Flower-Garden, and Kitchen-Garden of a Mansion. By Mr. William Dargavell	- 122
Some Remarks on the Suburban Gardens of the Metropolis, and on the Mode of laying out and planting the Public Squares. By Mr. T. Rutger	- 513
A series of Designs for laying out Suburban Gardens and Grounds, from One Perch to several Acres in extent. By Mr. T. Rutger.	
Design 1. Frontages of Four Houses, containing One Perch each.	
Design 2. Frontages of Four Houses, containing One Perch and a Half each	- 509
Remarks on Competition Designs for Flower-Gardens, with a Design adapted to a particularly shaped Piece of Ground, and containing a Problem for Solution as to Flower-Gardens. By Mr. T. Rutger	- 459
A Working Plan for laying out and planting a Suburban Flower-Garden, containing about a Quarter of an Acre, and situated within Two Miles of St. Paul's, London. By the Conductor.	- 163
A Series of Designs for laying out and planting Flower-Gardens, with Remarks on each, by the Conductor.	
Design 1. by Floretus	- 237
Design 2. by Lancastriensis	- 284
Design 3. by Tyro	- 352
Design 4. by A Young Gardener	- 449
On the Distribution and Choice of Trees in a Park, with reference to Landscape-Gardening. By Mr. R. Glendinning, Gardener to Lord Rolle	- 233
A Series of Designs for laying out Kitchen-Gardens. By Mr. T. Rutger.	
Design 7. containing about Four Acres within the Walls, One Acre and Three Quarters in the Slips, One Acre of Flower-Garden, and Two Acres of Fruit-Garden and Orchard; in all, Eight Acres and Three Quarters	- 13
Design 8. Containing nearly Seven Acres within the Walls, and the small Garden and Slips about Three Acres and Three Quarters	- 66
Design 9. Containing Four Acres within the Walls, and Five Acres in the Slips; with a System of Cropping indicated	- 118
Design for a Gardener's House, adapted for the South-West Wall of a Kitchen-Garden. By Mr. Robertson	- 64
Design for a Gardener's House, adapted for the South-East Angle of a walled Kitchen-Garden. By Mr. Robertson	- 173
On the Advantages of building the Furnaces of Green-houses, and other Descriptions of Houses for Plants, within the House. By Mr. W. Anderson, F.L.S. H.S. &c., Curator of the Botanic Garden, Chelsea	- 247
round Plan, Elevation, and Description of a Moss House erected at Murtle, in Aberdeen.	

shire. By Mr. James Alexander, Gardener at Maeslough Castle, South Wales	- 567
Descriptive Notice of some of the Rustic Flower-Baskets in the Grounds at Stoke Place. By Mr. Andrew Patrick, Gardener there	- 12
On the Use of Vases as Ornamental Objects in Garden Scenery. By Calycanthus	- 290
Notice of Two Chinese Tiles used for Garden Purposes in the Suburbs of Canton. From a Communication by J. Reeves, Esq.	- 171
On a new Mode of forming curved Lines, in laying out Grounds. By Mr. Alexander Forsyth	- 462
On the Substitution of Flagstone for Gravel, in Kitchen-Garden Walks. By the Conductor	291
On the Management of Grass Lawns. By Mr. T. Rutger	- 469
Notice of a new Mode of numbering Plants, the Invention of Mr. William Morris. Communicated by Mr. Morris	- 466
A new Method of striking Cuttings. By Mr. A. Forsyth	- 562

ARBORICULTURE.

Arboricultural Notices; or, Notices of new Hardy Trees and Shrubs, deserving of General Cultivation in Useful or Ornamental Plantations	28. 148
Directions for drawing Trees and Botanical Specimens from Nature, to any given Scale, and more especially to the Scales adapted to the "Arboretum Britannicum." By the Conductor	- 395
Simple and expeditious Modes of ascertaining the Heights of Trees. By the Conductor and by Richard Varden, Esq.	- 518
Remarks on the Rot in the Larch. By Mr. William Taylor, Gardener at Thainston, near Kintore, Aberdeenshire	- 178
An Account of some remarkable Trees now growing at Mamhead, the Residence and Property of R. W. Newman, Esq., situated about Eight Miles from Exeter. By Mr. Robert T. Pince, Nurseryman	- 127
Notices of the more rapid-growing Timber Trees in the Plantations at Heath House, Staffordshire. By Mr. John Howden	- 133
Notices of remarkable Trees and Shrubs in different Parts of England. By various Contributors	359
Notice of the rapid Growth of some young Trees, at Knedlington, near Howden. Communicated by Thomas Clark, Esq.	- 250
Dimensions of Certain Trees in Raywood, at Castle Howard, in Yorkshire; taken by Mr. John Henderson, Forester there. Communicated by James Loch, Esq. M.P.	- 17
Notices of remarkable Trees now growing in the Environs of London. Abstracted from various Sources by J. W. L.	- 564
Description of some of the Magnolias grown at Harringay House, Hornsey, Middlesex, the Seat of Edward Gray, Esq. By Mr. Thomas Press, Jun.	- 69
The History of the original Plant of the Exmouth Magnolia, in the Garden of Sir John Colliton, in Exmouth. Communicated by Mr. R. Glendinning, Gardener to Lord Rolle	- 70
On the different Species and Varieties of the Horsechestnut. By M. C. R.	- 248
Notice of a fine Plant of <i>Acacia dealbata</i> , growing in the open Air, in the Neighbourhood of Taunton. By the Rev. W. G. Dymock	- 249
Scottish Arboricultural Notices, by Mr. Gorrie, Mr. Dorward, Mr. Young, and Mr. Bishop. Communicated by Mr. Gorrie	- 175
Additional Considerations on the Causes of Disease in the Larch Tree in Britain. By Mr. James Munro	- 571
On the Necessity of adjusting the Tops of trans-	

planted Forest Trees to their Roots. By Mr. John Howden	- 15
Notice of some remarkably large Trees in Van Diemen's Land, with Notices respecting some Trees which have stood the English Winters in the Neighbourhood of York. By Mr. T. Backhouse	- 570
A List of Trees, with their Prices in the London Nurseries, for planting an Arboretum on a comprehensive Scale with the smallest Number of Plants, viz. with 298 Trees, which will cost about 30 <i>l</i> . By the Conductor	- 567
Some Account of the Arboretum lately commenced by His Grace the Duke of Devonshire, at Chatsworth, in Derbyshire. Communicated by His Grace's Head-Gardener and Forester there, Mr. Paxton, F.L.S. H.S. &c.	- 385
On some Instruments for transplanting large Trees, and the Manner of using them. By Mr. Henry Pratt, Gardener to William Harrison, Esq. F.L.S. H.S. &c.	- 134

FLORICULTURE.

Floricultural and Botanical Notices of newly introduced Plants, and of Plants of Interest previously in our Gardens, supplementary to the latest Editions of the "Encyclopædia of Plants," and of the "Hortus Britannicus"	- 25. 72. 143. 190. 258. 293. 372. 417. 471. 523. 579
Notes and Enquiries on certain Species of Plants which have their Sexes dioecious. By John Denison	- 301
Notice of a successful Mode of bringing Tropical Plants into a Flowering State. By E. B.	- 19
On the Culture of Tropical Orchideous Plants. By Mr. R. Glendinning	- 136
Hints for the Cultivation of Epiphytal <i>Orchidææ</i> , derived from Observations made during a Botanical Excursion through Demerara, Trinidad, and the Spanish Main. By Mr. John Henchman	137
Cautionary Remarks on Mr. Henchman's Paper on the Culture of <i>Orchidææ</i> . By H. P.	- 252
On the Culture of the <i>Brunfelsia americana</i> . By Mr. Alexander H. Hogg. Flower-Gardener to the Hon. Lady Heathcote, Hurstley Park	362

HORTICULTURE.

Pomological Notices; or, Notices of new Fruits which have been proved, during the past Year, to deserve General Cultivation in British Gardens	- 30
Remarks on the "Fruit Cultivator" of Mr. Rogers. By T. G.	- 180
On destroying the White Scale on Pine-Apples, together with some Remarks on the Natural History of that Insect. By J. B. W.	- 186
On Mr. Dowding's Manner of cultivating the Queen Pine-Apple for early Fruit, as a Market Speculation. By Mr. Alexander Forsyth	- 20
On the Culture of the Pine-Apple, as practised by Mr. Dowding, at Oakhill, East Barnet. By Mr. Alexander Forsyth	- 254
The Mode of cultivating the Pine-Apple, as practised at Downton Castle, the Seat of T. A. Knight, Esq. F.R.S., President of the Horticultural Society. Communicated by J. M.	- 368
On the Coiling System of Vine Culture, with preliminary Remarks. By Mr. R. Fish, Gardener to Tattersall, Esq.	- 362
Olitioral Notices; or, Notices of new Culinary Vegetables, deserving of General Cultivation in British Gardens	- 39
On the Failure of the Potato Crop in the North of Scotland. By Mr. James Munro	- 416
Short Communications. — Purple Laburnum, 24; Gate Fastening, 71; Plants, how to be placed, 71; Equalisation of Soils, 71; The Simple Field-Style, 471.	

REVIEWS.

- Don's General System of Gardening and Botany &c. - 194
 Le Bon Jardinier, Almanac pour l'Année 1835. Par A. Poiteau et Vilmorin - 194
 1. Address delivered before the Massachusetts Horticultural Society, on the Celebration of their First Anniversary, Sept. 19. 1829. By H. A. S. Dearborn - 195
 2. The same for the Second Annual Festival, September, 1830. By Zebedee Cook, Jun. 195
 3. The same for the Third Annual Festival, September, 1831. By Malthus A. Ward, M.D. 195
 Royle's Illustrations of the Botany and other Branches of the Natural History of the Himalayan Mountains, and of the Flora of Cashmere, &c. - 86. 199
 1. The American Gardener's Magazine, and Register of all useful Discoveries and Improvements in Horticulture and Rural Affairs. Conducted by C. M. Hovey, and P. B. Hovey, Jun. Boston, U. S. - 530
 2. The Horticultural Register and Gardener's Magazine. Conducted by T. G. Fessenden and J. E. Teschemacher. Boston, U. S. - 531
 Magasin d'Horticulture, &c. Par R. Courtois, Docteur en Médecine, Sous-Directeur du Jardin Botanique de l'Université de Liège, &c. 78
 The Fruit Cultivator, &c. By John Rogers, Nurseryman, formerly of the Royal Gardens - 99
 The Florist's Magazine; a Register of the newest and most beautiful Varieties of Florists' Flowers: drawn from Nature, engraved and coloured in the most finished Style. By F. W. Smith - 425
 A History and Description of the different Varieties of the Pansy, or Heartsease, now in cultivation in the British Gardens, illustrated with Twenty-four coloured Figures of the choicest Sorts. By J. Sinclair and J. Freeman 426

- An Article drawn up for the "Encyclopædia Britannica." By Dr. Neill - 673
 Outlines of Botany, including a General History of the Vegetable Kingdom, in which Plants are arranged according to the System of Natural Affinities. By Gilbert T. Burnett, F.L.S. - 591
 A Practical Treatise on the Cultivation of the Vine on open Walls. By Clement Hoare - 674
 Hooker's Journal of Botany, &c. - 85
 Report on Lawson's Agricultural Museum - 196
 Shirreff's Tour through North America - 197
 The Complete Farmer and Rural Economist &c. By Thomas G. Fessenden, Esq., Author of the "New England Farmer" - 87
 Journal of a recent Visit to the principal Vineyards of Spain and France, &c. By James Busby, Esq. - 90
 Catalogue of Works on Gardening, Agriculture, Botany, Rural Architecture, &c., lately published, with some Account of those considered the most interesting - 100. 202. 593
 Mantell's Floriculture Doncaster Association on the Turnip Fly, 100; Sopwith's Isometrical Drawing, 101; Bagster's Bees, 102; the Mirror, 202; Vienna Agricultural Transactions, Botanical Gazette, 203; Deakin and Marnock's Florigraphia Britannica, Reitz on the Merino Sheep, Titford's Hortus Americanus, 534; Flora and Thalia, Stewart's Outlines of Botany, 535; Main's Popular Botany, Bohler's Lichens of Britain, Sowerby's English Botany, 593; Baxter's British Flowering Plants, Francis's Catalogue of British Flowering Plants and Ferns, Sinclair's Description of the Dahlia, 594; Smith on Cucumbers and Melons, Nurseryman's Catalogue for 1835, Clarke's English Grammar, 595; Smith's Evolution, Smith's Speaker's Guide, 595; Salon d'E'té à Gand, Société Anonyme d'Horticulture, De Candolle's Rare Plants of the Geneva Garden, 597.

MISCELLANEOUS INTELLIGENCE.

GENERAL NOTICES. — The Buds, Twigs, and Branches of Trees, of many Plants; Naturalisation of Plants, Covering Wall-Fruit Trees with Ivy, Plants grown in Moss, Transplanting large Trees, 103; Economy of the little grey Moth (*Xponomeuta padella*), 204; General Existence of a newly observed and peculiar Property in Plants, and on its Analogy to the Irritability of Animals, Character of the Phenomena, Plants in which Instances of the Phenomena have been observed, 263; Nature and Cause of the Phenomena, Facts which oppose the ascribing the Divergence to Elasticity, Facts which led Dr. Johnson to conclude that a vital Property causes the Divergence, Stimulants which excite or increase the Power of Divergence, Receiving and Exchanging Seeds, 264; Leadon Wire, *Lepidium rudérale*, 265; Metallic Wire for Tying up Trees, &c., 318; Prepared Zinc Labels for Plants, Apples kept nearly till Apples come again, 319; To destroy Insects by a Solution of Chlorine, Superior Label for Plants, 535; To Dry Botanical Specimens with despatch, Kyan's Patent Composition for Seasoning Timber, Early, Middle, and Late blossoming Apples, Kidney Potatoes planted whole, 536; Scientific Fecundation, A simple Instrument for indicating the Changes of the Weather, 677.

FOREIGN NOTICES.

France. — The Foreign Trees of France, Th Exotic Plantations of Madame Aglaé Adanson, Benthàmia and Macilura, The Spanish Potato, 42; Catalogue of Plants cultivated by J. Sisley-Vandae, Rambouillet, Dec. 23., 205; Jardin de Fromont, 206. 678; Paris, Rue des Vignes, 478; Horsechestnut Trees, True Service Tree, *Gladious natalensis*, 537.

Belgium. — Foreign Trees of the Netherlands, 104; Planting in the District of Liège, 150; Humbeque Nursery, near Brussels, 537.
 Germany. — Vienna, Nov. 20., Stuttgard, Oct. 23., 104; Flötbeck Nurseries, Hamburg, 206; Camellia francfortensis, 265; Munich, May 30., 480; Botanic Garden of Berlin, 541.
 Italy. — Naples, Jan. 9., 150; Peuta, near Salerno, June 13., 481.
 North America. — Boston, Dec. 8., 151; Catalogue of Vegetable, Herb, Flower, Tree, and Grass Seeds, Ornamental Tree Society, Species of Elm called the Slippery or Red Elm, The Date Palm Tree, Botanical Tour, 207; Progress of Floriculture in Philadelphia, 265; Columbus, Ohio, March 1., Philadelphia, May 18., 483.
 South America. — Manufacture of Meal from the Cassava Root, and of the Indian Drink Picuarrie, 484.
 India. — The Discovery of the Tea Shrub in India, 428; Discovery of the Genuine Tea Plant in Upper Assam, 429.
 Africa. — Nursery at Algiers, 482.
 Australia. — The South Australian Association, Swan River Colony, 140.

DOMESTIC NOTICES,

England. — A Botanic Garden, Animals in the Botanic Garden of Bury St. Edmund's, Weekes's Mode of heating by Hot Water, White Knights 43; High Clere, Remarkable Foreign Trees, Fine Trees near London, 44; Trees and Shrubs in Suffolk and other parts of England, The *Ficus elastica*, *Magnolia grandiflora*, 45; *Catalpa syriacifolia*, *Salisburia adiantifolia*, *Robinia hispida* trained against a wall, *Ribes sanguineum*, Cork Tree, *Brugmansia suaveolens*, 46; The Pomegranate, *Eriobotrya japonica*, Leaves and Fruit of a Sweet water

- Grape, Apples, Preservation of dried Sweet Herbs, Large Cucumber, 47; The largest Gooseberries grown in Lancashire, The Scarlet Trefoil, 48; The New Forest in Hampshire, The True Love Apple, The Bee-flowered Ophrys, Plants in Flower in the open Ground at Whitmore Lodge, 105; Baron Karwinsky's Collection of succulent and other rare Mexican Plants, *Chimonanthus fragrans*, The Lancashire Botanical and Horticultural Book Society, Trees in the Fulham Nursery, 152; Ivy planted at the Base of a Wall, and trained over the Face of the opposite side of the Wall, A Nosegay of Fruits, 153; Australian Trees at Coed Ithil, 207; Australian Trees in Mackay's Nursery, *Sida pulchella*, Cuffhells near Lyndhurst, 208; Remarkable Stone Pine, *Crataegus oxyacantha* var. *præcox*, Apples cultivated in the South of England in the Sixteenth Century, Carlisle's Topographical Dictionary, Substitute for Bellows, 209; Metropolitan Society of Florists and Amateurs, Exhibitions of the London Horticultural Society, Newick Horticultural Society, Suitableness of Cornwall for growing Exotics, Old Trees in Ditton Park, 266; *Eriobotrya japonica*, Forest Trees of New Zealand, Specimens of double varieties of Camellias, *Brugmansia sanguinea*, 267; Collection of Pelargoniums, Mode of Protecting Wall-Fruit Trees, The Sweeny Nonpareil, The Maesbury Red Potato, Turnpike Gates and Wickets, 268; Vittoria Wheat, Large Mushrooms, 269; Grand Floricultural Exhibition, Mr. Groom's Tulips, Guernsey, Advantages of Water in the Cultivation of Culinary Vegetables, 320; Forced Roses, The Banana (*Musa sapientum*), The Common Ash Tree, A Colmar Pear Tree, Growth and Fertility of Scions of Pears grafted in the Neighbourhood of Lancaster, 321; Grand Floricultural Fête and Exhibition of Flowers and Flowering Plants, The Metropolitan Florists' Society, A Floricultural Exhibition, 378; High Clerc June 1., *Coniferae* propagated by cuttings, 430; *Tilia europæa* var. *rubricaulis*, *Acer Pseudo-Platanus* var. *fol. argenteis*, *Planera ulmifolia*, *Acer circinatum*, *Gladiolus natalensis*, Head of late White Broccoli, 431; Devon and Exeter Botanical and Horticultural Society, 488; The Manchester Botanic Garden, *Elaeocarpus cyaneus*, *Alstroemeria acutifolia*, 489; Faulkner's New Scarlet Pine, 490; Buchanan's Nursery, Camberwell; Trees in the Arboretum of the Surrey Zoological Garden, Metropolitan Society of Florists and Amateurs, 544; Greater Adam's Needle, Dwarf Fan Palm, New Variety of Dahlia, 545; *Sarracenia purpurea*, Hamburgh Grapes, 546; The Trees of New Zealand, A Hand Water-Engine, The Pine and Fir Tribe, 678; *Acer striatum* (the striped-barked or Pennsylvanian Maple), *Hamamelis virginica*, *Maclura aurantiaca*, The *Carambola* [Averrhoa *Carambola* from Ceylon in 1733], Exotics in the Isle of Anglesea, 679; The Oleander, *Chenopodium Quinoa*, The Agave americana or Great American Aloe, A Hydrangea, A Tree Dahlia, A Strawberry, The Heaviest Gooseberries for 1835, 680; A Pearl Onion, *Trifolium incarnatum*, The London Dairies, 681.
- Scotland. — Monymusk in Aberdeenshire, 48; The Pepperwell Oak, The Largest Cedar in Scotland, 49; *Orchideæ* in the Vicinity of Dundee, 106; Arboreta, 107; An Arboretum, 153; Prizes of the Caledonian Horticultural Society, 209; County Horticultural Society, 210; Drummond's Agricultural Museum at Stirling, 269; Return Papers for the Arboretum Britannicum, 321; The Auchenbowie and West Plain Horticultural Society, The Stirling Horticultural Society, 322; Caledonian Horticultural Society, 378; The Watt Institution at Dundee, 431; *Acacia affinis*, *Psidium Cattleianum*, 432; Great Improvements in the Manufacture of Hemp, 547; *Pittosporum Tobira* and *Acacia armata*, Thrashing Machines driven by Steam, 682.
- Ireland. — The Horticultural Society of Ireland, Vittoria Wheat, Foreign Trees in Ireland, 50; Belfast Horticultural Society, 153; Kilkenny, Feb. 11., 210; Yew Tree with Yellow Berries, 269; Plan for the Formation of a Natural Arrangement of Plants for a Botanic Garden, by Mr. Niven, 684; Pakenham Hall, 682; The Botanic Garden at Belfast, A cut-leaved Variety of the Common Oak, *Pinus Pinaster*, *Pinus sylvestris*, *Taxus baccata*, 683; *Melampyrum arvense*, *Olea europæa*, 684.
- Calls at Suburban Gardens. — Ham House, S. Gurney, Esq., Oct. 13., 684. Stratford Green, J. Allcard, Esq., 685. The Leyton Nursery, 686. Stamford Hill, William Bromley, Esq., 687.
- Hints for Improvements. — Scale for showing the comparative Hardiness of Trees, 687; Hares may, perhaps, be excluded from Flower-Gardens, 688.
- Retrospective Criticism. — Mr. Calvert's Nursery at Rouen, Mr. Gilpin's Hints, &c., 51; Giving Air to Hot-bed Frames, Mr. Toward's Account of the Moss-house at Bagshot, Arboretum Britannicum, 52; Dates of the Introduction of Culinary Vegetables and Fruits, A Monthly Horticultural Calendar in the Gardener's Magazine, 108; Hayward's Inquiry, &c., reviewed, What are the Heat and Moisture best adapted for the Production of various Fruits? Rutgers's Designs for Kitchen and Flower-Gardens, Rustic Work for Garden Ornaments, The Wourali Poison, 154; Beet-leaved Nightshade, Cultivation of Trees and Shrubs in preference to Florists' Flowers, 155; Churchyard at Arley Hall, The Culture of *Orchideæ*, The Flower of *Pontederia crassipes*, 211; *Solanum betaceum*, The Purple Potato, 269; Management of the Government Plantations in Hampshire, Note on Double Crocuses, 322; Flowering Tropical Plants, Destroying the Scale on Pines, 323; Index to the First Ten Volumes of the Gardener's Magazine, 379; Glazed Pit for Protecting Green-house Plants, 380; Metropolitan Society of Florists, White Scale on Pine-apple Plants, 433; The Substitution of Pavement for Gravel, 434; Rowland's Metallic Wire for Tying-up Trees, Metropolitan Arboretum, Coiling System of Vine Culture, 435; Erratum, The Coiling System of Vine Culture, 490, 492; Shrivelling of Grapes, 493; Effect of Frost on Brick Walls, 494; Dr. Lindley's Ladies' Botany, Exotics in a Flower-garden, Rowland's Metallic Wire, Destroying the Scale on Pines, 548; *Ceanothus collinus*, Coiling of Vines, 549; London Horticultural Society's Regulations for the Year, 1836, 597; Review of Haywood on Horticulture, 598; The Horsechestnut, a lumpy Tree, &c., 601; Tottenham Park Muscat Grape, The Coiling System, &c., 602., 603; Shrivelling of Grapes in Vineries, 603; Destroying the White Scale on the Pine-apple, &c., 604; Immense Avenue of Elms, Live oak (*Quercus virens*), Planté en Panière, 206; The Red Oak and the Scarlet Oak (*Quercus rubra* and *Quercus coccinea*), 688; Species and Varieties of *Bétula*, *Láthyrus Armitageanus*, The Question whether Potatoes ought to be planted whole or in Sets, 689.
- Queries and Answers. — Has a Plant been named after Dr. Turton, What is the Natural History of the Cone-like Excrecence so common on the Oak? The Best Method of Preserving Celery through the Winter, *Magnolia grandiflora* exoniensis, The Cabbage Tree of Lapland, 53; Botanic Garden at Stockwell, Gardens of Dr. Hall's Baths, Newcastle; Griffin's First Lines of Chemistry, Chemical Recreations, *Salisburiæ adiantifolia*, 108; Cropping a Garden, Glass Covers at Small Cost, 109; Mixing the Indigenous Shrubs of a Country with Foreign or Improved Species, 155; The Turkey and Norway Oak, The Best Time to Sow Acorns, The Margil Apple, 156; Double-flowered Crocus, White and Green Asparagus in Paris, Artichokes, 157; *Chenopodium Quinoa*, *Oxalis crenata*, *Gladiolus natalensis*, 212; Ivy, Evergreen Herbaceous Plants, *Melia Azedarach*, 213; Perpetual Cropping, Gardening Authors,

- Dimensions of Trees and Shrubs, Sussex said to be suitable for acclimatising Plants, The Cedar of Lebanon, 325; Grafting in May and June, *Magnolia grandiflora*, 326; Richard Anthony Salisbury, F.R.S. &c., *Salisburia adiantifolia*, 380; Growth of the Oak Tree, American *Magnolias* in China, 437; *Salisburia adiantifolia*, *Fiscum album* in Ireland, Largest flowering Tulip Trees, Ronce d'Hongrie, The Double Yellow Rose, The *Rosa Banksia*, Evergreen Shrubs, 438; Proper Age at which to cut down Oak Trees, 549; Large single *Camellia*, 551; The Botanic Garden of Edinburgh in 1682, Culture of the Vine in Australia, Canker on Cucumber Plants, 605.
- Covent Garden Market.—54. 109. 158. 213. 270. 327. 383. 440. 495. 551. 606.
- London Horticultural Society and Garden.—110. 214. 325. 391. 438. 494. 607.
- Metropolitan Society of Florists and Amateurs, 55.
- Queries and Answers.—Public Evening Reading Rooms in Towns and Villages; Outline of a Botanical Tour; Inserting the Levels of Plans; Chatsworth Arboretum; The most Profitable Age for Cutting Oaks; The Female Black Italian Poplar, 690; Reddish Circular Scales on the Under Side of Oak Leaves, 691; *Lathyrus magellanicus*; A Mode of Preserving the Flowers of the Pansy; Potatoes, 692.
- Provincial Horticultural Societies for 1835:—Bedfordshire, 692. Berkshire, Cambridge-shire, 693. Cornwall, 694. Cumberland, 695. Derbyshire, Devonshire, 696. Dorsetshire, Durham, Gloucestershire, Hampshire, Herefordshire, 699. Leicestershire, 700. Lancashire, Norfolk, Northamptonshire, Northumberland, 702. Nottinghamshire, 703. Somersetshire, 704. Suffolk, Surrey, Sussex, 705. Warwickshire, Wiltshire, 706. Yorkshire, 708, 709. The Channel Islands, 710. Wales, 714. Clackmannanshire, Dumfriesshire, 712. Edinburghshire, Fifeshire, 713, 714. Forfarshire, 715. Lanarkshire, Renfrewshire, Stirlingshire, 716. Ireland, 717, 718.
- Biography.—Consequa, 111; Mr. Douglas, the botanist, 271; Andrew Heron, Esq., of Baggally, 718.
- Obituary.—Walter William Capper, Esq.; Mr. James Sherare, 56; Robert Sweet, F.L.S., with the titles of his literary works, and the dates of their publication, &c., 159; Reginald Whitby, 160; Mr. Douglas, 216; William Dickson, Esq., 328; James Frost, 384; William Forsyth, Esq., F.H.S., 496; Mr. George Johnston, 552; Mr. James Drummond, 608; William Malcolm Esq., F.L.S. H.S., &c., 720.

LIST OF ENGRAVINGS.

	No.	Page
13. Instruments for transplanting large trees	134	
77, 78. New number stick for plants	466	
INSTRUMENTS.		
7—10. Pots for pine plants	22	
23. An improved garden pot	233	
UTENSILS.		
24—27. Outlines for planting in masses	234	
28. Outlines for planting in masses	236	
53. Mode of drawing trees to a scale	397	
55—60. Details	403—406	
64. Section of a paved walk	434	
71—76. New mode of forming curved lines, and laying out grounds	462—465	
82—85. Surface drains of brick for irrigating a lawn or arboretum	498, 499	
90—93. A mode of taking the heights of trees	519—522	
OPERATION.		
98. New mode of striking cuttings	564	
GATE AND GATE STYLE.		
15. Gate and gate fastening	71	
81. The simple field style	471	
GARDEN ORNAMENTS.		
1—3. Rustic flower-baskets	12, 13	
20, 21. Chinese tiles	171, 172	
STRUCTURES.		
6. Section of a pine pit	21	
32. Section of a pine pit	255	
79, 80. Plan and elevation of a moss-house at Murtle	467, 468	
BUILDINGS.		
12. Gardener's house	65	
22. Gardener's house	174	
PLANTS.		
15, 36. Stamina and pistil	301	
37. <i>Myristica moschata</i> , and various botanical details	302	
38. <i>Hippophae rhamnoides</i> , <i>Schæfferia completa</i> , <i>Broussonetia papyrifera</i> , and <i>Nageia Putranjiva</i>	306	
39. <i>Humulus Lupulus</i> , the hop plant	310	
40. Male and female flowers of the hop plant	310	
41. <i>Artocarpus incisa</i>	311	
42—44. <i>Artocarpus integrifolia</i>	311	
45—47. Flower and fruit of the <i>Macclura aurantiaca</i>	313, 314	
48. <i>Ficus Carica</i> flower	316	
49. <i>Lathraea Squamaria</i> , tuber.	318	
FRUIT.		
94, 95. Hamburgh grapes of extraordinary size and form	546	
ENTIRE TREES.		
54. <i>Ailanthus glandulosa</i>	399	
61. <i>Quercus pedunculata</i>	407	
62. <i>Prunus Padus</i>	409	
68. <i>Gleditschia triacanthos</i> var. <i>inermis</i>	411	
PLANS OF GARDENS AND THE GROUNDS OF SMALL VILLAS.		
4. Kitchen-garden of four acres	41	
5. Flower-garden of one acre	42	
14. Flower-garden	68	
13. Kitchen-garden of seven acres	67	
16. Kitchen-garden of four acres	120	
17. Flower and kitchen-garden	123	
99. Plan for laying out the grounds of a suburban villa of nine acres, including ground plan of principal floor of house and plans of outbuildings	670, 671	
19. A working plan for a suburban garden	168, 169	
29. Design for laying out and planting a flower-garden. By Floretus	238, 239	
30. Ditto	240, 241	
31. Ditto corrected	244, 245	
32. Design for laying out and planting a flower-garden. By Lancastriensis	286, 287	
34. Ditto corrected	288, 289	
50. Flower-garden. By Tyro	354, 355	
51. Ditto. By the Conductor	356, 357	
65. Ditto. By a Young Gardener	450, 451	
66. Ditto corrected	454, 455	
67. Ditto varied	456, 457	
68—70. Flower-garden and shrubbery	459—462	
86. Frontages of four houses containing one perch each	510, 511	
87. Frontages of four houses containing one perch and a half each	510, 511	
88, 89. Plan for laying out a public square	516, 517.	
96. Frontages of six houses thrown into one	560, 561	
97. Frontages of four houses in detached pairs	562, 563	

LIST OF PLANTS.

Those marked with a * or † are not registered in the last edition of the *Hortus Britannicus*; those marked with a * are in the country; but those marked with a † are not in the country. When either of these marks is put before the generic name, it must be considered as referring to the genus; when before the species or variety, as referring only to that species or variety.

<i>A'bies</i> , 6 sp. -	570
<i>alba</i> -	480
* <i>amabilis</i> -	430
<i>balsamifera</i> -	531, 532, 640
<i>cærulea</i> -	207
? syn. of <i>Pinus cærulea</i> ,	
H. B., No. 23, 612.	
<i>canadensis</i> -	178, 556, 640
<i>Douglasii</i> -	29, 206, 542,
557	
<i>dumosa</i> -	542
<i>excelsa</i> -	178, 480
* <i>Menziesii</i> -	430, 431
* <i>Morinda</i> -	430, 431
<i>nigra</i> -	480
* <i>nobilis</i> -	430
<i>Picea</i> -	177, 531
<i>Pichta</i> -	430
<i>spectabilis</i> -	539, 542
<i>Webbiana</i> , identical with	
<i>Pinus Webbiana</i> Wall.,	
and this is a syn. of	
<i>spectabilis Lamb</i> -	29,
430	
<i>Clanbrasiliana</i> -	682
* <i>Abutilon pulchellum</i> -	293
syn. <i>Sida pulchella</i> , H. B.,	
No. 18091.	
<i>Acácia</i> , sp. -	215
? sp. nova -	216
<i>affinis</i> , identical with <i>deal-</i>	
<i>bata Lk.</i> , H. B., No.	
24852, distinct from	
<i>dealbata Cun.</i> , H. B., No.	
24734; distinct from <i>af-</i>	
<i>finis Swt.</i> , H. B., No.	
24699 -	208, 432
<i>armata</i> -	208, 216, 266, 330,
420, 682	
? † <i>curvifolia</i> -	78
<i>dealbata</i> -	108, 216, 266,
267, 358, 432, 682	
<i>decurrens</i> -	216
<i>Deloëndia</i> , identical with	
<i>dealbata Lk.</i> , H. B. No.	
48452 -	267
<i>heterophylla</i> -	151
<i>horrída</i> -	482
<i>Julibrissin</i> -	45, 151, 324,
639, 678	
<i>junifolia</i> -	216
<i>longissima</i> -	266
<i>lophantha</i> -	216, 250, 330,
359, 533	
* <i>paradoxá</i> -	78
† <i>præsans</i> -	295
<i>pubescens</i> -	216, 266
<i>pulchella</i> -	326
<i>Sophora</i> -	266
<i>stricta</i> -	216
<i>undulæfolia</i> -	191
<i>verticillata</i> -	208, 682
* <i>Acanthophippium</i> bicolor	77
<i>Acánthus spinósus</i> -	106
<i>A'cer</i> , 16 sp. -	568
<i>barbatum</i> -	643
<i>campêtre</i> -	252, 556
<i>campêtre variegatum</i> -	566
<i>circinatum</i> -	431
<i>créticum</i> -	565
<i>eriocarpum</i> -	565
<i>eriocarpon</i> var. † <i>intermè-</i>	
<i>dium</i> -	78

<i>A'cer Lobèlii</i> , in G. Don's Syst	
of G. & B., a syn. of	
<i>platanoides L.</i> -	539
<i>monspessulanum</i> -	684
† <i>neapolitanum</i> -	542
<i>Negundo</i> , syn. of <i>Negundo</i>	
<i>fraxinifolium</i> -	639
<i>pennsylvanicum</i> -	639
<i>platanoides</i> -	683
<i>Pseudo-Platanus</i> -	556
<i>Pseudo-Platanus</i> var. fol.	
† <i>argenteis</i> -	431
<i>rubrum</i> -	167, 504, 565, 639
<i>saccharinum</i> -	639
<i>striatum</i> -	504, 679
<i>Achillea tomentosa</i> -	106
* <i>Acropèra Loddigèsii</i> -	214
<i>Æ'sculus</i> 1 sp. 3 var. -	568
* <i>americana</i> -	248, 249
<i>cærnea</i> -	167, 248, 382
<i>discolor</i> , a syn. of <i>hybrida</i>	
<i>Dec.</i> -	248
<i>flava</i> -	248, 249
<i>Hippocastanum</i> -	248,
358, 537	
<i>Hipp. fol. * argént.</i> -	248
<i>Hipp. fol. * aúr.</i> -	248
<i>Hippocastanum</i> ? † <i>folio</i>	
<i>oto luteo</i> -	78
<i>humilis</i> -	248
<i>hybrida</i> -	248, 249
* <i>Lýoni</i> -	248
<i>macrostachya</i> -	248
<i>ohioensis</i> -	248
* <i>pumila</i> -	248
* <i>rosea</i> -	248, 249
<i>rubicunda</i> -	248, 249, 382
<i>pallida</i> -	248, 382
<i>Pavia</i> -	248, 639
<i>Pavia * erécta</i> -	248
<i>Pavia macrostachya</i> ; a	
syn. of <i>Æ. macrostachya</i>	
-	248, 249
<i>Pavia * serrata</i> -	248
<i>Agáricus campestris</i> -	340
<i>Agave americana</i> -	680
<i>Alántus glandulosa</i> -	44, 153,
166, 396, 398, 480, 541,	
565, 568, 642, 678	
<i>A'lus</i> 3 sp. 3 var. -	569
<i>cordata</i> , ? the epithet	
mistaken for <i>cordifolia</i>	
-	29
<i>cordifolia</i> -	542
<i>glutindosa</i> -	360
<i>incana</i> -	241
<i>macrophylla</i> -	538
<i>A'loe distans</i> -	326
<i>Aloë'sia citriodora</i> -	80
<i>Alsophila australis</i> -	340
<i>Alstræmeria acutifolia</i> -	489
* <i>aurea</i> -	3, 83, 439, 494
<i>edulis</i> ; <i>Salsilla</i> of some bo-	
tanists of Britain, not of	
Linnaeus, is a synonyme	
of this -	77
<i>hirtella</i> -	59
<i>oculata</i> , syn. of <i>Salsilla L.</i> ,	
not of some botanists of	
Britain -	77
<i>ovata</i> , syn. of <i>hirtella</i> -	
210	
<i>Pelegrina</i> -	713
<i>pulchella</i> -	383

<i>Alstræmeria * Salsilla</i> , the <i>Sal-</i>	
<i>silla L.</i> , not of some bo-	
tanists of Britain -	77
<i>Altingia excelsa</i> -	197, 698
<i>Cunninghamii</i> -	197, 542
<i>Alyssum saxatile</i> -	106
<i>Amarýllis amabilis</i> -	215
<i>aurea Fl. Per.</i> , syn. of	
* <i>Pyrolirion aureum</i>	
<i>Herb.</i> -	27
<i>aólica</i> -	215
<i>calyptrata</i> -	214
? † <i>Carnarvonia</i> -	78
<i>peruviana Poirét</i> ; syn.	
of * <i>Pyrolirion aureum</i>	
<i>Herbert</i> -	27
<i>psittacina * venusta</i> -	265
<i>pulverulenta</i> ; ? syn. of <i>re-</i>	
<i>gnæ</i> var. <i>pulverulenta</i>	
-	216
<i>solandraflora</i> -	382
<i>Anelúchier</i> , 5 sp. -	569
<i>Botryopium</i> -	166, 640
<i>sanguinea</i> -	565
<i>Ampelopsis hederacea</i> -	170
<i>Amýgdalus</i> 1 sp. 1 var. -	569
<i>communis</i> -	167
<i>macrocarpa</i> , var. of <i>com-</i>	
<i>munis</i> in H. B. -	216
<i>orientalis</i> -	643
† <i>tomentosula</i> -	207
<i>Anagallis Monèlli * var.</i> -	74
<i>Andrómèda arborea</i> -	566, 639
<i>floribunda</i> -	56, 325, 706
<i>Anemone arborea</i> , syn. of <i>ca-</i>	
<i>pensis L.</i> -	78, 190
<i>coronaria</i> var. -	106
<i>Angræcum * clandestinum</i>	
-	424
* <i>distichum</i> -	424, 478
* <i>micranthum</i> -	423
* <i>teretifolium</i> -	424
<i>Anigozanthos * Manglesi</i> 27	
<i>Anisanthus Cunônia</i> -	326
<i>splendens</i> -	381
<i>Anòda Cherimòlia</i> -	161
<i>Anomathæa cruenta</i> -	494
<i>Anthocérus viscosa</i> -	326
<i>Anthyllis Bárba Jovis</i> -	382
<i>Antirrhinum majus</i> fl. pl. 383	
-	430
<i>majus</i> var. -	106
<i>A'rabis præcox</i> -	106
<i>Aràlia spinosa</i> -	542
<i>Araucária brasiliána</i> -	197
<i>excelsa</i> , syn. of <i>Altingia</i>	
<i>excelsa</i> -	84, 229
<i>imbricata</i> -	542, 678
<i>A'rbutus</i> , 2 sp. -	566
* sp. from Mexico: it re-	
sembles <i>Andrachne</i> 583,	
585	
<i>Andrachne</i> -	44, 45, 106
<i>U'nedo</i> -	106, 167, 178, 542,
566	
<i>U'nedo ruber</i> -	44, 106
<i>mucronata</i> -	682
<i>procera</i> -	259
<i>Arctostáphylus</i> ? † <i>cordifolia</i>	
-	528
? † <i>glauca</i> -	528
<i>tomentosa</i> ; syn. <i>A'rbutus</i>	
<i>tomentosa</i> , in H. B.	
No. 11079 -	528

- Arctium* * nemorosum - 79
Ardisia hymenandra - 381
Aria 3 sp. - 569
Aristotelia Mácqui - 167. 542.
568
Aristolochia ? † galeata - 78
trilobata - 381
Armenica vulgaris - 569
Arméria (Státice) dianthoides
106
Artocarpus integrifolia - 312
Artocarpus incisa - 311
Arundo Donax - 161
Asclépias tuberosa - 61
Asimina parviflora - 542
triloba - 542. 639. 641
Astrapæa Wallichii - 215
Aster argophyllus; syn. *Hax-*
tonia argophylla H. B.
No. 3453 - 359
fruticulosa - 106
Asterocēphalus (Scabiōsa)
atropurpureus - 106
Astroloma humifusum - 341
Atriplex Halimus - 342
Aubrieta deltoidea - 106
Aucuba japonica - 167. 512.
542. 639
Avēna flavescens - 478
pratensis - 479
Averrhoa Carambola - 679
Azalea * *Danielsii* - 275
† glabra - 639
glauca - 639
ledifolia - 326. 381
indica - 344
indica alba, a syn. of *ledi-*
folia - 69
indica * hybrida - 326
indica phoenicea 216 381.
533. 697
Morterii - 219
pōtica - 170
pūchra, ? syn., *Rhodo-*
dendron pulchellum
Swt., Loudon's H. B.,
No. 29194 - 381
† spinosa (?) - 639
* *Azara dentata* - 527
* integrifolia - 527
Baccharis halimifolia - 542
Banksia Baxteri - 84
grandis - 84
Baryosma crenulata; it may
be that is syn. with H. B.
No. 15,575 - 374
† *Baumannia geminiflora*
597
Beaufortia decussata - 532
Bejaria, syn. with *Bejaria*, H.
B. genus, No. 1426 - 523
Begonia * *geranifolia* - 144
* petalodes - 296
* *Benthāmia fragifera* 150. 508
Bellum * *crassifolium* - 192
Berberis Aquifolium - 215.
216. 326. 508. 542
aristata - 166
* dealbata - 258. 327
fasciculāris - 326, 327
sinensis - 382. 542
Bétula, 4 sp. - 569
alba - 502. 639
alba * *péndula* - 166. 639
antárctica, ? syn. in H. B.
No. 28855 - 340. 51
* angulata - 687
† *carpathica* - 78
dalecarlica, ? syn. a var. of
alba L. in H. B. - 538
excelsa - 502. 639
† *jūncea* - 538
lenta - 639
papyracea - 177
nigra - 177. 502. 557. 369
nitida - 78
péndula - 502. 639
populifolia - 177. 502. 639
pubescens - 502. 639
Bétula † *urticæfolia* - 78
Bignonia capreolata - 383
venusta - 482
Billbergia fasciata - 56
Blētia hyacinthina - 215. 701
* *reflexa* - 299
Tankervilleæ - 266
Borrera tenella - 593
Bouvardia triphylla - 711. 361
Boronia serrulata - 325. 326
Brassia * *Lanceana* - 261
Brodiaea congesta - 383
Broussonetia cucullata - 317
maculata, or *navifolia*:
it is probable that this
is a syn. of *cucullata*
539
papyrifera - 306. 311. 317.
569
Brugmansia arborea, ? iden-
tical with *suavæolens* - 382
* *bicolor* - 146
sanguinea, identical with
bicolor, which name was
priorly published - 76.
146. 267. 482
suavæolens - 46. 482
Bryonia dioica - 264
Buddlia globosa - 542
madagascariensis - 215
Bumelia lycioides - 643
tenax - 542
Búxus, 2 sp. - 569
sempervirens - 542
sempervirens var. - 167
Calandrinia * *speciosa* - 439
Calánthe veratrifolia - 381
Calceolaria, * a shrubby kind
with corolla white - 475
* *Plant's* shubby varieties
587
bicolor - 106
* *excelsa* - 78
* *exoniensis* - 697
Caprifolium flexuosum, syn.
of *chinense* *Wats.* - 170
Calycanthus floridus - 167
Calceolaria Herbertiana - 351
rugosa - 106
* *lanata* - 381
* *Pluto* - 381
* *viscosissima* - 326. 381
Youngii * *speciosa* - 381
Calliopæa aurea (*Hieracium*
aureum) - 106
Calliopsis bicolor - 106
* *Calliprora flava* - 439
Callistemon lanceolatus - 361
lophanthus - 151
rigidus - 358
Calotropis procera - 523
Camassia esculenta - 382
* *petalodes* - 215
* *frankfurtensis* - 265
* *frankfurtensis*; must be
the same as the preced-
ing - 543
† *Gunnellii* - 543
* *hybrida* - 143
japonica - 151. 215. 716
j. Aitōnia - 215
j. alba plena - 215
*j. * Allnūtta alba* - 326
j. aucubæfolia - 216
*j. * candidissima* - 78
j. Colvillii - 215
j. conspicua - 215
*j. * decora* - 215
*j. * Doncklaeri* - 85
*j. * Dorsettii* - 216
j. fimbriata - 215
*j. * Martha* - 294
*j. * Palmeri* - 215
*j. * péndula* - 216
*j. * princeps* - 215
*j. * Reevesii* *longifolia*
215
*j. * rotundifolia* - 215
j. speciosa - 216. 533
*Camellia j. * splendens* - 215.
216
*j. * superba* - 326
*j. * Susanna* - 294
† *Wellbankiana* - 78
† *Pronayana* - 544
reticulata - 215. 326
* *Sieboldii*, syn. of *jucun-*
dissima - 7
Sweetii - 558
† *violacea superba* - 543
*j. * Wadelliana*
Campāna fragilis var. * *hir-*
suta - 145
* *murālis* - 78
* *Portenschlagiana* - 78
pyramidalis - 544
Camphorosma monspeliaca 542
Cinnabis sativa - 310
Candollea cuneiformis - 216
Cánna glauca * *rūbro-lutea* 590
Cápparis spinosa - 495
Caprifolium * *hispidulum* 297
Caragana arborescens - 569
Cárpinus, 1 sp. 1 var. - 569
Carya, 6 sp. - 512
alba - 251. 541. 640
amara - 541
porcina - 541
sulcata - 541
Casuarina torulosa - 342
equisetifolia - 687
Cassia glandulosa - 526
Cassine † *paragua* - 639
Castanea pumila - 640
vesca - 570
Catalpa syriacæfolia - 46. 167.
566. 569. 639. 643
† *virginiana flore caruleo*
78
Catananche bicolor, a var. of
carulea - 439. 494
Catasetum inapertum, syn. of
pūrum - 193
* *pūrum*, *semiapertum* H.
B. No. 22657 is a syn. of
this - 193
tridentatum - 5
trifidum, syn. of *Myan-*
thus cernuus Lindl 28
* *Cavendishia nobilis* - 524
Ceanothus azureus - 494. 508
* *collinus* - 549
Cedrus, 2 sp. - 570
Deodara - 430. 556
Libani - 542. 550
Celtis, 2 sp. - 569
occidentalis - 183. 639
Cenomyce rangiferina - 463
Cephalanthus occidentalis - 639
Cerastium ? *Biebersteinii*,
may be distinct from H. B.
No. 12050 - 527
Cerasus, 4 sp. - 569
† *americana* - 640
Capollin - 382
caproniana var. - 327
canadensis - 640
* *japonica* - 582
Laurocerasus - 167. 538
lusitana - 166
Mahaleb - 166
Mahaleb * *nana* - 78
Mahaleb var. * *pubescens*
5-7
nigra - 166
Pādus - 166. 405. 640
pumila - 640
sempervirens - 166
virginiana - 166. 251
Cercis, 2 sp. - 569
canadensis - 639
Siliquastrum - 166
Cereus Ackermannii, syn. of
Epiphyllum Ackermannii 381
Ackermannii * *major* - 381
phyllanthoides - 381
Epiphyllum phyllanthoides
H. B. No. 12590 is a syn.

Céteach officinarum - 694
Chamaerops humilis - 545
Chelone * *centranthifolia* 106.
 145. 383. 439. 494
Chenopodium - 439
Chenopodium *Quinda* - 212.
 216. 680
Cheiranthus Chetvi var. - 106
Cheiri * *folio variegato* 78
 * *floribus purpureis plenis* 78
mutabilis - 106
Chilodina scutellarioides - 298
Chimonanthus fragrans - 58
 106. 152. 167. 210. 214. 215
fragrans grandiflorus - 214
 215
 f. * *parviflorus* - 214. 215
Chionanthus virginica 44. 639
Chiridia * *pedunculatis* - 586
Chorozema Henchmanni - 381
Chrysanthemum sinense - 106
Cibotium Billardi - 340
Cineraria discolor - 20
Petasites - 215
Cinnamomum Camphora - 151
Cissampelos smilacina - 305
Cistus, sp. - 167
 * *Cladonia furcata*, syn. with
 H. B. No. 26,768 - 593
Clarkia * *elegans* - 439. 494
pulchella * *alba* - 494
Clavija * *ornata* - 421
Clematis erecta - 439
hedysarifolia - 106
montana - 381
Clerodendrum emirnense - 20
macrophyllum - 20
Cléthra alnifolia - 170
arborescens - 544
 † *Michauxii* - 79
 * *Clianthus puniceus* - 382. 419
 508. 704
Clivea nobilis - 266
Collètia ferox; *ferox Gill* and
Hook. is, Dr. Lindley has
 stated, a syn. of *horrida*
Brongniart - 420
horrida Brongn.; it is
 probable that No. 5486
 in H. B. is a syn. - 420
spindosa; it is probable
 that this is a syn. of
horrida Brongniart 361.
Collinsia * *bicolor* 76. 106. 326.
 327. 382. 383. 439
grandiflora - 382
Collomia * *coccinea* - 381. 382.
 439
Colutea cruenta - 170
Convulvulus althæoides - 60
Batatas - 42
bryoniaefolius - 60
Corallorhiza innata - 106
Coreopsis † *Ackermanni* - 78
Coriaria myrtifolia - 639
Cornus, 4 sp. - 569
florida - 44. 502. 639
mās, syn. of *māscula* H.
 B. No. 3380. - 479
Coronilla E'merus - 170
glauca - 106
Correa * *alba* - 359
Corylus americana - 538
Colurna - 211. 504. 538.
 541. 565. 570
heterophylla - 207
 * *laciniata* - 538
 * *purpurea* - 78
rostrata - 538
 * *rubra (foliis)* - 538
tubulosa - 528
Cotoneaster, 4 sp. - 569
frigida - 166
microphylla - 44
tomentosa - 640
Craspedia * *macrocephala* 37

Crataegus, sp. from seed - 509
 23 sp. 14 var. - 569
 or *Mespilus* sp. - 32
 varieties - 16. 539. 540
 † *acuminata* - 538
 ? * *altaica* - 512
apiifolia * *major* - 515
 * *arbutifolia* - 502
Ardnia - 29. 166. 687
Asarolus - 166
 † *badiata* - 538
cordata - 89. 166
 * *Celsiana* - 538
coccinea - 166
Crus-galli 166. 502. 640.
 680
Crus-galli var. *salicifolia*
 166. 566
elliptica - 502
flava - 512
glabra, syn. *Photinia ser-*
rulata - 538
 * *hybrida* - 502
lobata - 538
 * *lucida* - 502. 639. 640.
mexicana - 473. 583
nigra - 166. 538
nepalensis - 643
odoratissima 29. 89. 166.
 687
orientalis - 687
ovalifolia - 502
Oxyacantha - 89. 156. 358
Ox. fl. pl. - 166
Ox. var. præcox - 209
Ox. rosea superba - 389
prunifolia - 502
 † *pterifolia* - 207
pubescens - 507
purpurea - 512
Pyracantha - 167
pyrifolia - 538
 * *salicifolia*, a synonyme
 of *Crus-galli* var. *sal-*
icifolia of H. B. - 502
splendens is identical with
Crus-galli var. *splendens*
 H. B. - 502
stipulacea [mexicana] and
 other thorns in Belgium
 538. 643
tanacetifolia - 29. 166
viridis - 684
Crescentia Cujete - 529
Crinum amabile - 215
gigantum - 55
Cræwea saligna - 56
Cryptocarya glaucescens - 342
Cunninghamia lanceolata 542.
 570
 * *sinensis* - 197
Cupressus, 4 sp. - 570
sempervirens - 128. 167.
 752. 264
sempervirens var. *horizon-*
talis - 542. 566
sempervirens stricta 565
thyoides - 504. 542. 639
Cycas revoluta - 533
Cyclamen persicum var. - 215
 * *Cycnoches Loddigessii* - 192.
 383
 * *Loddigessii* var. - 327
Cydônia, 2 sp. - 569
japonica - 106. 170
sinensis - 539
Cymbidium lancifolium - 382
sinense - 55
Cypripedium Calceolus - 382
insigne - 55
parviflorum - 381
pubescens - 326
spectabile - 281
 * *Cyrtopera Woodfordii*; this
 may be a synonyme of
Cyrtopodium Woodfordii
 H. B. No. 22695 - 5
Cyrtopodium Anderssonii 5
Cytisus, 2 sp. 1 var. - 569
 * *bracteolatus* - 268

Cytisus albus - 167
alpinus - 166
argenteus - 326
Laburnum - 24. 166
nubigenus - 381
purpureus - 24
 * *Daboecia (Menziesia) polli-*
folia - 106
Dactylis glomerata - 468
Dais † *urticifolia* - 639
Dalbergia Barclayana - 20
Daphne Cneorum - 85. 542
Mexerum - 167
pontica - 542
Datura arborea, syn. of *Bug-*
mansia suaveolens - 46. 482
Métel * var. fl. pl. luteo 607
Daviesia † *pungens* - 79
 * *Deutzia scabra* - 382. 508
Delphinium Ajacis - 106. 425
grandiflorum - 383. 439
 * *Garnierianum* - 60
pubescens - 425
Dendrobium Calceolaria 55
 * *cupreum* - 478
 * *densiflorum* - 423
 * *macrostachyum* - 382
Digitalis † *truncata* - 79
Dillwynia cinerascens 79. 326
 * *glycinifolia*, a var. of 326
juniperina - 326
Diosma capitata - 215. 381
rubra - 381. 382
Diospyros, 2 sp. - 569
Kakt - 243
pubescens - 243
Lotos - 643
virginiana - 29. 166. 640.
 * *Diplopappus incanus* - 106.
 495
Direa palustris - 639
Dracaena terminalis - 262
Duvauxia latifolia - 150
 * *Dyckia rariflora* - 476
Echeveria gibbiflora - 55. 214
Echinocactus † *macrodiscus* 72
 † *pulchella* - 72
Edwardsia chilensis; syn. in
 H. B. *Sophora macrocarpa*,
 No. 29258 - 584
chrysophylla - 680
grandiflora - 582
microphylla - 208
Elæagnus orientalis - 569
Elæocarpus cyaneus - 439. 489
E'mpetrum rubrum - 474
Enkianthus quinqueflorus 532
E'paciis attenuata; syn. in
 H. B. *Lysinema attenua-*
tum - 216
impressa - 55. 214
paludosa - 326. 327
purpurascens - 216
rosea; syn. in H. B. *Ly-*
sinema pungens var.
rubrum - 214
 * *variabilis* - 214
E'phedra, 3 sp. - 542
Epidendrum elongatum * *pāl-*
lidum - 327
 * *gracile* - 79. 423
 † *pallidum* - 79
 * *stenopetalum* - 377
Epiphyllum speciosum - 6
Erica Aitonii - 544
andromedaeflora - 326
Archeriana - 56
aristata major - 326
Blandfordii - 326
Bonplandii - 326
carnea - 106
carnea herbacea - 106
cerinthoides - 326
depressa - 382
elegans - 325
Hartnelli - 326
Linnaea - 214
munda - 326

Erica Aitonii pellucida - 214
 propendens - 326
 pyramidalis verna - 326
 recurvata - 475
 trossula - 326
 vernalis coccinea - 214
Eriobotrya japonica - 47. 643
Erigeron purpureus - 106
Eriogonum *compositum 420
Eriophyllum caespitosum 106.
 383
Eriostemon cuspidatus - 532
Erodium Gussoni - 106
Eryngium alpinum - 439
Erythrina Crista-galli - 508.
 704
 laurifolia - 545
Erythronium *gigantem
 530
 *grandiflorum - 530
Escallonia rubra - 30. 150. 167.
 330
 montevicensis 30. 150. 330
Eschscholtzia californica 439
 *cracea - 106. 382. 439.
 494, 495
Eucalyptus perfoliata - 359
 robusta - 151. 359. 570
Eugenia myrtifolia - 56
Euonymus, 2 sp. - 568
 latifolius - 167
Eupatorium *glandulosum 26
Euphorbia Lathyris - 94
 Longan - 73
 † *Poinsettia*; it is by some
 deemed the splendens of
 Loudon's H. B. - 533
Eutoca *divaricata - 476
 *viscida - 439
Fagus, 1 sp., 3 var. - 573
 atropurpurea - 639
 betuloides - 340
 *cuprea, ? syn. *F. s.* var.
 atro-rubens, or *F. fer-*
ruginea - 565
 sylvatica - 639
 sylvatica ? * var. fol. toto
 luteo - 79
 sylvatica ? * var. fol. varieg.
 albo - 79
 sylvatica, var. tricolor 79
Fernandesia *acuta - 589
Festuca ovina - 479
Ficus Carica - 311. 316. 569
 elastica - 45. 533
Fraxinea racemosa - 700
Fraxinus, 3 sp., 3 var. - 569
 americana - 640. 684
 a. epiptera - 678
 excelsior - 251. 557
 excelsior pendula 400. 643
 floribunda ? syn. *O. rhus*
 floribunda - 539
 juglandifolia - 545. 640
 lentiscifolia - 678
 nigra - 640
O. rhus - 678
 pubescens - 640
 simplicifolia - 557
 sambucifolia - 640
Fritillaria *vittata - 327
Fuchsia *discolor - 580
 gracilis - 106. 555
 *globosa - 554. 555
 macrostema, *longiflora,
 and various others 581
 microphylla 106. 554. 555
 varieties raised at Mr.
 Dennis's from seed 582
 *Thompsoni - 79
Funkia lanceaefolia - 148
 *Galeandra gracilis - 327
Galega filiformis; syn. *Sweetia*
 filiformis - 160
 longifolia; syn. *Sweetia*
 longifolia - 160
Gaillardia bicolor var.
 *Drummondii, identical
 with *G. picta* - 25
 *picta - 25

Gardoula Hookeri; syn. in
 H. B. *Cunila coccinea* - 76
 *Garrya elliptica - 149. 215
Gaultheria † hispida - 341
Shallon - 694. 716
Genista amxantica - 25
 ephedroides - 295
Gentiana acutis - 106
Gerardia aphylla - 75
Gesnera *allagophylla - 376
 *elongata - 79
 *faucialis - 529
 *placentifera - 79
 Douglasii - 271. 697
 Douglasii * var. - 326
 *latifolia - 326
Gilia *achilleaefolia 106. 382.
 439
 capitata - 415
 tricolor - 106. 383. 439
 tricolor, var. *whitish
 corollae - 586
Gnidia simplex - 215
 *Goldfussia anisophylla; syn.
 in H. B., *Ruellia* aniso-
 phylla - 298
Goodia latifolia - 216
Gorteria rigens - 382
Gossypium arboreum - 382
Gladiolus natalensis - 212. 261.
 431. 537. 717
Gleditschia, 6 sp. - 560
 horrida - 167. 565
 inermis - 408. 565
 triacanthos - 44. 166. 251.
 640. 643
Gloriosa superba, in seed 507
Gloxinia caulscens - 326
Gordonia Lasianthus - 640
Govenia superba - 590
Grevillia sericea - 381
Griffithia hyacinthina -
 Grindelia † villosa - 79
 *Gröbya Amherstiae - 147
Gymnadenia conopsea - 106
Gymnocladus canadensis - 166.
 569. 639. 640
Gypsophila elegans - 439
Gyröphora erosa - 593
Habenaria bifolia - 106
 *gigantea - 77
 *goodyeroides - 261
Hakea acicularis - 358
 ferruginea - 472
Halesia, 2 sp. - 569
 diptera - 208
 tetraptera - 167. 208. 566.
 640
Hamamelis virginica 167. 640.
 679. 684
Helleborus odorus - 215
 niger - 215
Hesperiscordum *lacteum
 383
Hibiscus filiflorus - 20
 syriacus - 170
Hippophae, 1 sp. 1 var. - 569
 conferta, a syn. of *salici-*
folia - 308
 rhamnoides, *angustifolia
 307. 308
 salicifolia - 308
 *sibirica - 308
Holcus lanatus - 468
Hosackia bicolor - 383
Houstonia longifolia - 698
Hovea Celsi - 326
Hoya carnea - 702. 708
Humea elegans - 544
Humulus Lupulus - 310
Hyacinthus orientalis 425. 695
Hymenophyllum tunbrid-
ense - 694
 Wilsoni - 695
Hypoxis stellaris, a mistake
 for stellata - 381
Iberis semperflorens - 106
Ilex, 3 sp. - 568
 Aquifolium 167. 360. 546
 opaca - 167. 542. 557

Indigofera atropurpurea - 191
Ipomoea * *Aitonii* - 587
 † involucreta - 79
 *rubro-cyanea - 106
Ismene calathina - 326
Isopogon * *Loudoni* - 418
Iris chinensis - 211. 533
 foetidissima - 332
 germanica - 79
 variegata - 79
Ixora coccinea - 325
 crocata - 704
Jacquina aurantiaca - 60
Jasminum fruticans - 542
 officinale - 170
 revolutum - 383
Joliffia africana - 20
Juglans, 3 sp. - 569
 cinerea - 541. 556. 640
 fraxinifolia - 541
 † heterophylla - 539
 nigra - 231. 541
 ? † *Peccan* - 541. 640
 pterocarpa - 541
Juniperus, 3 sp. - 570
 communis - 479
 Sabina - 542
 suecica - 167
 virginiana - 165. 542. 566
Justicia carnea - 106
Kalmia latifolia - 640
Kennedyia coccinea - 706
 *glabrata - 381
 *Marryatta - 524
Kölreuteria paniculata - 166.
 565. 568. 681
Lachenalia tricolor - 215. 326
 *Lælia anceps - 261
Lagerstroemia indica - 639
 *Lalage ornata - 25
Lantana *multiflora - 79. 190
 † niveo. Cammaria - 79
Larix † alba, ? syn. of *L. eu-*
ropæa - 640
 europæa, 1 var. - 570
 europæa sibirica - 556
 microcarpa - 556. 565
 pendula - 539
 † rubra, ? syn. of *L. mi-*
crocarpa - 640
Lasiopetalum solanaceum
 326
 * *Lasthenia californica* - 326.
 327. 381. 475
 *glabrata - 475
Lathyrus * *Armitageanus* 525
 689
 grandiflorus - 383
 magellanicus - 692
Lathraea Squamaria - 318
Laurus, 2 sp. - 569
 Borbonia - 640
Benzoin - 640
 nobilis - 15. 165. 303. 360.
 542
 Sassafras - 303. 565. 639.
 640
Lavatera thuringiaca - 106
Lechea naltia oblata - 326
 * *Lepanthus tridentata* - 300
Lepidium ruderae - 265
 * *Leptosiphon* * *androsaceus*
 381
 *densiflorus; densiflorus
 *corolla alba - 26
Leptospermum emarginatum
 267
 grandiflorum - 418
 lanigerum - 342
 * *Leptodes bicolor* - 326
Leucopogon lanceolatus - 342
Leucopogon pulchellum - 216
Lilium † eximium - 79
 † speciosum - 79
 tenuifolium - 147
 * *Limnathes Douglasii* - 326
Linum * monogynum 73. 439
 trigynum - 361
Linaria triornithophora - 106
Liparis elata - 5

Liquidámbar, 2 sp. - 570
 imbérbe - 644
 † peregrinum - 640
 Styrciflúa - 167. 251. 541.
 640
 Liriodéndron Tulipífera 166.
 177. 250. 361. 556. 568. 640
 642
 Listera cordata - 106
 Nidus-avis - 106
 ovata - 106
 Lithospermum * rosmarinifó-
 lium - 146
 Lophospermum * atosangui-
 nium - 75
 Lobelia bicolor - 327
 † cuneifolia - 79
 fulgens - 79
 * propinqua - 79
 Thupa ?† purpurea - 79
 Lupinus * nánus - 439. 494
 mutabilis var. Cruik-
 shanksianus, syn. in
 H. B. Cruikshanksii
 106
 mutabilis - 494. 495
 * grandifolius - 382
 Cruickshanksii - 495
 * albibrons - 382
 nootkatensis - 327
 Luculia gratissima - 55
 Lecidea geographica, ? syn. in
 H. B. no. 26526. 2. - 593
 Lupinus ornatus 106. 383. 439.
 495
 polyphyllus - 382
 * rivularis - 327. 381. 282
 Sabiniönus - 381
 tomentosus - 382
 Lycium bárbárum - 170
 Macclura aurantiáca 311. 312.
 313. 314. 315. 316. 569. 643. 679
 Média elegans - 495
 Magnolia, 8 sp. - 568
 conspicua - 43. 44. 69. 70.
 84. 166. 216. 326. 504. 641.
 699
 cordata - 44
 acuminata - 44. 167. 541
 auriculata - 44. 458
 glauca - 44. 438. 565. 640
 grandiflora 44. 45. 69. 151.
 325. 437. 439. 544. 639.
 640. 641. 690
 grandiflora elliptica - 438
 grandiflora var. exoni-
 ensis - 33. 70. 131
 grandiflora var. lanceolata
 131
 grandiflora var. obovata
 131
 grandiflora var. præcox
 494
 Kobus, syn. of tomentosa
 641
 macrophylla - 44. 45. 69.
 70. 84
 Soulangeana 69. 70. 84. 641
 tomentosa - 44
 tripetala - 44. 640. 641
 Málope * grandiflora - 495
 Álus, 5 sp. - 569
 Álva capensis - 106
 Monroëna - 383
 purpurata - 383
 Mammillaria † cirrhifera - 72
 † columnaris - 72
 † crucigera - 72
 † glochidiata - 72
 † gladiata - 72
 † Karwinskiána - 72
 † mystax - 72
 † polyedra - 72
 † polythèle - 72
 † pycnacantha - 72
 † quadrispina - 72
 † spachelata - 72
 † vétula - 72
 † Zuccariniána - 72
 Maránta arundinácea - 339

Matthiola ánnua - 106
 simplicicaulis - 106
 Maurándya Barclayána 59. 208
 Maxillaria aromática - 381
 * crócea - 588
 * densa - 589
 * graminea - 588
 Parkéii - 138
 * picta - 588
 * rufescens - 588
 Melaleuca ericifolia - 151
 hypericifolia - 151
 Mèlia Azedarách - 200. 213.
 639. 642
 sempervirens - 639
 * Melo chamberi - 704
 Menispermum canadense 304.
 canadense β lobatum 304.
 305
 carolinianum - 305
 däuricum - 305
 Lyonii - 305
 smilacinum - 305
 virginicum - 305
 Mesembryanthemum equila-
 terale - 341
 rubrocinetum - 74. 382
 Mèspilus, 2 sp. - 569
 lobata, syn. in H. B.
 Smithii - 583
 Metrosideros floribunda - 327
 Menziesia poliofolia álba - 684
 Melampyrum arvénse - 683
 Micrótis † Bänksii - 77
 * média - 77
 parviflora - 77
 porrifolia, syn. of Bänksii
 77
 Mimulus - 298
 glutinosus - 106
 * Smithii - 382
 * Youngii - 494
 * Monachánthus * discolor 106.
 147
 * viridis - 147. 262
 Morina † longifolia - 597
 * Morisia hypogæa - 372
 Mörus, kinds in Belgium 538.
 to 540
 3 sp. - 669
 álba - 539. 565. 640
 álba var. † italica - 538
 † canadensis - 539
 chinensis, ? syn. sinensis
 of H. B. - 539
 chinensis macrophylla
 ? syn. álba macrophylla
 of H. B. - 539
 † columbassetta - 539
 † columbassetta furcata 539
 constantinopolitana 539
 † áura - 539
 † foglia doppia - 539
 † furcata - 539
 * gazziola - 539
 italica - 539
 italica rubra, ? syn. rubra
 of H. B. - 539
 † laciniata - 539
 † latifolia - 539
 † lucida - 539
 macrophylla, ? syn. álba
 macrophylla in H. B.
 539
 † marietii - 539
 † membranacea - 539
 † multicaulis - 538
 † nana - 539
 † nervosa - 539
 † ovalifolia fructu nigro
 539
 ovalifolia † grisea - 539
 † rúsea - 539
 † rubra macrophylla - 539
 † subálba nervosa - 538
 tatárica - 539
 † Venaissaini - 539
 Muráltia Heistéria - 327
 Músa * sp. - 590

Músa sapiéntum - 321
 Mutisia * latifolia - 297
 * Myánthus * barbátus - 477
 * cernuus - 28. 327
 Myrica cerifera - 640
 Myrtus communis - 360
 Nagèia Putranjiva - 306
 Narcissus * máximus - 299
 Negúndo fraxinifolium - 166.
 561
 fraxinifolium crispum 167
 Nelámbium speciosum - 60
 Nemóphila * insignis - 326.
 327
 Neóttia * calcarata - 299
 speciosa, syn. in H. B. sp.
 Stenorhynchus speci-
 osus - 56. 215
 Nierembérgia * calycina - 26
 Nolána * atriplicifolia - 587
 * Nycteria lychnidea - 581
 Nýssa aquática, is given in
 H. B. a syn. of biflora - 569.
 640
 sylvatica - 640
 Ænothéra * densiflora - 494.
 495
 macrocarpa - 439
 serótina - 106
 sinuata - 191
 sinuata * var. mínima 191
 speciosa - 439
 O'lea Oleaster - 542
 europæa - 684
 Oncidium altissimum - 138
 bifolium - 327
 carthaginense - 326
 * ciliatum - 106. 494
 * citrinum - 299
 * Lanceanum - 6
 * Lemonianum - 530
 lucidum - 139. 140
 papilio - 139. 140. 216
 pulchellum - 530
 pumilum - 326
 triquetrum - 193
 Ononis * angustifolia 326. 327
 O'phrys apiífera - 105
 Opúntia monocantha - 25
 O'rchis * foliosa - 327
 maculata - 106
 máscula - 106
 latifolia - 106
 tephrosánthos * var. densi-
 florus - 477
 O'rnus europæa - 44. 569
 O'robús * atropurpureus - 295
 Orobánche rubra - 694
 O'strya, 1 sp. 1 var. - 570
 Osýris álba - 310
 O'xalis crenata - 210. 212. 216.
 694. 704
 * Darwalliána - 525. 526.
 689
 floribunda - 59
 microphylla - 342
 Pióttæ - 381
 Pachysándra procumbens 326
 Pædônia Móttan * var. lácera
 418
 albiflora frágans - 383
 albiflora Hümei - 383
 albiflora var. * Reevesii
 79. 383
 albiflora Whitlèji - 383
 officinalis var. * anemone-
 flora - 382
 Móttan - 326
 Móttan Bänksii - 382
 Móttan rúsea - 79
 Móttan † rubra - 79
 officinalis var. - 382
 papaveracea, syn. Móttan
 papaveracea - 326
 tenuifolia - 327
 Paliurus aculeatus - 542. 568
 austrális, syn. of aculeatus
 639. 642
 Pancrátium speciosum - 55
 undulatum - 56

Pandanus spiralis - 533
Parkia † *africana* - 79
Parmelia omphalodes - 593
Passiflora quadrangularis 266.
 racemosa - 266
Pavia carnea * *pubescens* 378
 discolor, syn. of *hybrida* 378
 flava - 44. 382. 556. 565
 humilis - 302
 hybrida - 382
 † *indica* - 87
 macrostachya - 44
 rubra - 44. 166. 382
 rubra * *parviflora* - 382
Pelargonium cultivated or raised by Mr. Dennis - 296.
 374. 526. 582
Pentstemon atropurpureus
 diffusus - 439
 ovatus - 382
 Richardsonii - 494
 Scouleri - 382
 * *staticifolius* - 377
 procerus - 382
 pulchellus - 439
Persica vulgaris - 569
Petunia * *Atkinsoniana* - 27
 phenicea - 106. 555
 * *violacea*; this is rightly a synonyme of *P. phoenicea*, but may have been applied to a lilac corollaed variety of this 494
Phaca * *canescens* - 73
Phacelia * *sp. Douglas* - 383
 * *tanacetifolia* - 439
Phillyrea - 542
 angustifolia - 167
Phlox acuminata - 439
 † *Caldriana* - 79
 † *cruenta* - 79
 * *Drummondii* - 586
 † *Ingram* - 79
 * *macrophylla* - 79
 † *Nuttallii* - 79
 † *philadelphica* - 79
 † *pulchella* - 79
 setacea - 106
 taridiflora - 106
 † *Thompsoni* - 79
Pholidota * *imbricata*; the species now designated by this epithet is distinct from that designated by it in H. B. - 424
 pallida: *imbricata*, H. B., is a syn. of this - 424
Photinia arbutifolia - 542
 serulata - 538. 569. 687
** Physosiphon* † *emarginata* 590
 Loddigesi: *Stelis tubata* of H. B. is a syn. of this 590
 † *spiralis* - 590
Physostegia * *imbricata* - 146
** Picea*, 6 sp.: *Abies* *Picea* is the type of the genus
 Abies - 570
 Pimela † *paludosa* - 78
Pinus, 7 sp. - 570
 Cembra - 29. 557. 566
 Douglasii; syn. of *Abies Douglasii* - 272
Pinus echinata - 640
 excelsa - 542
 halepensis - 542
 Lambertiana 206. 272. 542
 Laricio - 480. 538. 542. 678
 longifolia - 207. 542. 538
 palustris - 45. 207. 539
 Picea (*Abies* *Picea*) 128
Pinaster 177. 542. 556. 565. 683
Pinea - 209. 542

Pinus ponderosa - 542
 rigida - 678
 rubra - 678
 Sabiniana - 29
 Strobilus - 480. 541. 556. 639. 640
 syvestris - 479. 480. 678
 syvestris var. *rubra* - 468
 Taeda - 538. 640
Piptanthus nepalensis - 166
Pistacia Terebinthus - 542
Pittosporum Tobira 359. 382. 682
Plagianthus * *sidoides* - 258
Plainera † *americana*; ? syn. of one of the two registered in H. B. - 431
 aquatica; syn. of *Gmelini* 431. 643
 Gmelini - 431
 Richardi - 538. 568
 ulmifolia; ? syn. of one or the two in H. B. - 431
Platanus, 2 sp. - 570
 † *digitata* - 207
 occidentalis - 644
 orientalis - 178. 251. 566
** Platystemon californicus* 327
Pleurothallis * *Gröbyi* - 589
Pleuranthus ternatus - 20
Poa annua - 479
Poa pratensis angustifolia 479
Podolepis gracilis; syn. in H. B. *Stylölepis gracilis* 494
Polygala * *attenuata* - 79
 Chamæbuxus - 106
 cordifolia - 216. 326
 * *gracilis* - 79. 190
 grandiflora - 216
Polygonum adpressum - 341
Polyspora axillaris - 55
Pomaderris elliptica - 326
Pontederia azurea - 211
 crassipes - 60. 211
Populus, 8 sp., 1 var.; 11 sp. 569. 691
 acledesca - 177
 alba - 480. 691. 688
 angulata - 45. 565
 betulifolia - 541
 canadensis - 640
 grandidentata - 539
 heterophylla - 541. 640
 laevigata - 539
 monilifera - 177. 500. 541.
 nigra - 565. 690
 salicifolia - 500. 541
 † *suaveolens* - 539
Potentilla formosa - 106
Hopwoodiana - 494
 * *memorali-formosa* - 472
Russelliana - 439. 494
 * *tormentillo-formosa* 373
Priestleya hirsuta - 56
Primula prænitenens - 215
 ciliata var. * *purpurata* 422
 verticillata - 326
 vulgaris fl. pur. pl. - 100
Prötez, sp. - 215
Prunus, 3 sp. - 569
 domestica - 167
 Padus var. *bracteolata*; syn. of *Cerasus Padus* var. *bracteata* - 489
 sinensis; syn. of *Cerasus japonica* - 214
 sinensis fl. pl.; syn. of *Cerasus japonica* multiplex - 326
Psidium Cattleianum - 432
Psoralea * *macrostachya* 374
Ptelea † *americana* - 640
 trifoliata 166. 500. 566. 568
Pteris esculenta - 339
 † *Pterocarya caucásica* - 207
Pultenæa * *cordata* - 584
 daphnoides - 216
Pýrola rotundifolia - 708

Pýrus, 6 sp. - 569
 americana - 166
 aucuparia - 166
 bollwylleriiana - 166. 538
 coronaria - 507
 domestica - 537
 † *glutinosa* - 79
 japonica (*Cydonia* jap.) 539
 † *Michauxia* - 538
 nivalis - 338. 404
 pinnatifida - 166
 Polveria; syn. of *bollwylleriiana* - 538
 sinica - 538
 sinensis - 150. 326
 spectabilis - 165. 500
 * *variolosa*; ? syn. of *Pashia* 326
 vestita - 29. 148
Quercus, 14 sp., 1 var. - 570
 alba - 565. 640
 Ægilops - 639
 aquatica - 640
 Banisteri - 687. 688
 Cerris - 155. 251. 565
 Cerris dentata - 128. 361
 Cerris hybrida var. *dentata*; syn. of *Q. C. var. dentata* - 128
 coccinea 128. 251. 505. 541.
 565. 688
 discolor - 541
 Flex - 127. 128. 150. 165.
 358. 565. 688
 lanuginosa - 539
 Leucombeana - 557. 565
 macrocarpa - 506
 † *mongolica* - 207
 nigra - 640
 palustris - 505. 541. 640
 pedunculata - 398. 405
 Phellos 507. 564. 565. 640
 pumila - 640
 rubra 42. 505. 541. 565. 644.
 886
 Söber - 44. 46. 127
 tinctoria - 45. 251. 506. 678
 Turneri - 539
 virens - 688
Quisqualis indica - 20. 106
Ramalina fastigiata - 593
 fraxinea - 593
Randia * *Bowieana* - 376
Reseda odorata - 106
Rhagodia Billardi - 342
Rhamnus, 4 sp. - 568
 Ataternus - 167. 542
 catharticus - 89. 539
 c. † var. *angustifolia* - 539
 oleifolia - 539
Zizyphus; syn. of *Zizyphus vulgaris* - 86
Rhaphiölepis indica - 542
Rhëum palmatum - 714
** Rhinopetalum Karelini* 262
** Rhodanthë Manglesi* - 381
Rhododendron - 421
 arborescens - 20. 80. 326
 a. var. - 265
 a. * *hybridum* - 533
 alta-clerense - 216
 calendulaceum, syn. *Azalea calendulacea*, var. * *fulgidum* - 585
 campanulatum - 44
 catawbiense - 67
 caucasicum - 45
 flavum, syn. *Azalea pontica*, var. *ardens* - 585
 indicum; perhaps *Azalea indica* is a syn. - 326
 indicum var. - 269
 * *Lowitzii* - 79. 190
 nudiflorum; syn. *Azalea nudiflora* - 375
 ponticum - 45. 79. 167.
 208. 330. 361
 * *reticulatum* - 191
 arborescens * *venustum* 297.
 375

- Rhus glabra* - - - 640
typhina - - - 640
viminális - - - 482
Ribes aúrcum - - - 170
*a. *serótinum* - - - 327
céreum - - - 326, 327
**glutinósum* - - - 150
inébrians - - - 327, 382
**malváceum* - - - 150
multiflorum - - - 327, 382
**niveum* - - - 326
sanguineum - - - 46, 150, 170
*s. *the dark var.* - - - 150
serótinum; syn. of aúrcum
var. serótinum - - - 326
**speciosum* 150, 266, 326,
327, 382, 697
tenuiflorum - - - 326
Robinia, 2 sp. 2 var. - - - 569
grandiflora: this is a syn.
of the macrophylla in
H. B. - - - 46
hispida - - - 46, 166, 211, 640
Pseud-Acacia - - - 250, 556,
565, 640, 642
viscosa - - - 166
Róchea falcata - - - 544
Rosa Banksia - - - 438
Banksia álba - - - 106
Banksia lútea - - - 327, 382
Grevillei - - - 170
indica - - - 106
*i. *centifolia* - - - 382
i. flavescens; syn. in
H. B. Rosa flavescens
i. var. Noisétii - - - 106
i. pumila - - - 106
i. var. sanguinea - - - 106
i. subálba - - - 106
microphylla - - - 439, 494
multiflora - - - 170
sanguinea; syn. of indica
var. sanguinea - - - 59
† Smithii - - - 265
Rosmarinus officinális - - - 542
Rubus cæsarius † folio varie-
gato - - - 79
collinus † flore pleno 79
discolor † bellidiflorus 79
d. semiplenus - - - 79
nutkanus - - - 150
**sanguinolentus* - - - 438
Rudbeckia Newmãni; syn. of
Centrocárpha chrysomela
*Ruellia *elegans* - - - 192
Ruscus, 3 sp. - - - 542
*Russelia *juncea* - - - 422
Salicornia ánnua - - - 342
† arbúscula - - - 342
Salisbúria adiantifolia - - - 46
106, 167, 361, 380, 542, 570,
641
Salix, 5 sp. - - - 569
álba - - - 480
babylónica - - - 566
caprea - - - 479
Salvia angustifolia - - - 106
betonicifolia var. - - - 79
† chinénsis - - - 79
fúlgens - - - 106, 554
involucrãta - - - 554
spléndens - - - 554
Salpiglóssis † fúlva - - - 79
Sambucus, 1 sp. 1 var. - - - 569
Saponaria ocyimoides - - - 381
Sarracenia purpurea - - - 546
Schæfferia completa - - - 306
Schubertia disticha; syn. of
Taxodium distichum - - - 42
Scóttia trapeziformis - - - 79, 190
Scyphóphorus fimbriatus; syn.
in H. B. Cenómyce fim-
briata - - - 593
Sedum, sp. - - - 215
Evërsii - - - 527
Senecio elegans, fl. pl. 106, 554,
555
*Sempervivum *urbicum* 144
Shepherdia argentea - - - 309
canadensis - - - 309
*Sida *inæqualis* - - - 524
pulchella, a syn. of Abi-
tilon pulchellum of this
list - - - 208
Solanum betaceum - - - 155, 269
crispum - - - 326, 382
Dulcamara - - - 155
**tuberósum* - - - 439, 494
laciniatum - - - 341
Pseudo-Capsicum - - - 55
** Tweedianum* - - - 145
Sophora, 2 sp. - - - 568
japonica - - - 42, 166, 480,
541, 642
occidentális; a syn. of a
var. of tomentosa - - - 191
tomentosa - - - 191
Sorbus, 5 sp. - - - 569
doméstica - - - 29
**Sphaerálcea angustifolia* 580
Sparmannia africana - - - 482
Spartum junceum - - - 170, 639
**Specklinia atropurpurea* 590
Spiræa, 3 sp. - - - 640
ariæfolia - - - 150, 439, 494
bella - - - 170
crenata - - - 326
**Stanhopea oculata, syn. in*
H. B. Ceratochilus oculatus
** grandiflorus, syn. in H.*
B. Ceratochilus grandi-
florus, - - - 5
*Stapelia *Gussoneana* - - - 74
Staphylea trifolia - - - 640
pinnata - - - 504
**Stenactis speciosa* - - - 383, 439
Sterculia platanifolia 482, 639
Strelitzia reginae - - - 56, 533
Stuárkia Malachodéndron, syn.
virginica - - - 44
virginica - - - 640
*Stypandra *propinqua* - - - 424
Symphoria racemosa - - - 170
glomerata - - - 640
Sýmphytum caucasicum - - - 422
*officinale *var. bohemi-*
cum, syn. in H. B. S. bo-
hemicum - - - 529
Syringa persica - - - 167
vulgaris álba - - - 167
vulgaris purpurea - - - 67
Tacsonia - - - 266
*Tacsonia *pinnatistipula* 327
**Talauma (Magnolia) pumila*
Tanacetum † globiferum - - - 597
Taxodium 1 sp. 1 var. - - - 570
distichum, under the sy-
nonymous name of
Schubertia disticha 42,
167, 267, 541, 639
distichum pendulum 360
Táxus 1 sp. 1 var. - - - 570
baccata - - - 128, 360, 683
† canadensis - - - 542
Tecomia Pandoræ - - - 326
Telopea speciosissima 532, 700
Thea viridis - - - 106
† Thibaudia - - - 523
Thúja, 2 sp. - - - 570
articulata - - - 542
austrális - - - 542
nepalénsis - - - 542
occidentális - - - 165, 542, 640
orientális - - - 542
plicata - - - 542
pyramidalis - - - 542
Thunbergia alata - - - 59
*alata * álba* - - - 698
** ?leucantha* - - - 704
Tilia 2 sp. var. 3
álba - - - 568
álba - - - 565
americana - - - 502, 642
americana pubescens,
? syn. of T. pubescens
H. B. - - - 502
Tilia argentea, syn. in H. B.
of T. álba - - - 642
europæa grandifolia,
identical with T. platy-
phylla in H. B. - - - 502
europæa parvifolia, iden-
tical with T. microphylla
H. B. - - - 502
*europæa *var. rubricaulis*
431
Tournefortia heliotropioides
53, 494, 495
Trifolium incarnatum - - - 48,
624
Trillium grandiflorum - - - 326
*Tritoma *Burchellii* - - - 193
media - - - 106
Tropæolum tricolorum - - - 266,
325, 326
**Tropa blanda* - - - 385
Tussilago fragrans - - - 106
Ulex europæa - - - 542
europæa fl. pl. - - - 106
europæa nána, identical
with U. nána - - - 479
nána - - - 542
provincialis - - - 542
Ulmus, 4 sp. 5 var. - - - 569
americana - - - 183, 640
crista - - - 557
montana - - - 251
**rúbra *pendula* - - - 361
viminális - - - 361
Urtica dioica - - - 311
pilulifera - - - 317
*Vaccinium *albiflorum* - - - 475
cæspitosum - - - 475
corymbosum - - - 528
corymbosum var. fuscá-
tum, syn. in H. B. V. fus-
cátum - - - 528
ovatum - - - 327
pennsylvanica ? syn. of No.
10117, in H. B. - - - 528
Vanda Roxbúrgii - - - 424
tessellata - - - 424
**unicolor* - - - 424
Veltheimia viridiflora - - - 532
Verbena chamædrifolia 59,
555
*multifida (erinoides) *var.*
contracta - - - 377
*pulchella * álba* - - - 557
venosa - - - 439, 555
Verónica decussata - - - 382
Vestia lycioides - - - 382
Viburnum, 2 sp. - - - 569
cassinoides - - - 639
**cotinifolium* - - - 327
Lantana - - - 429
lucidum - - - 106
rugosum - - - 330
O pulus rosea - - - 167
Tinus - - - 106, 167, 542
Vicia faba - - - 88
** polysperma* - - - 143
*Vinca rosea *foliis variegatis*
79, 190
Viola hirsuta - - - 106
tricolor - - - 106, 426, 427
Viscum album - - - 317, 438
Vitex Agnus castus - - - 542
Wedelia aurea - - - 145
*Westringia *eremicola* - - - 587
Wistaria Consequana - - - 170,
326, 382, 494
frutescens - - - 639
Virgilia lutea - - - 167, 568
Xanthorrhæa † arborea - - - 341
humilis - - - 341
Xanthoxylum fraxineum 568,
639, 640
Yucca gloriosa - - - 545, 714
Zelkova [Planera Richardii]
538
*Zephyranthes *spofforthiana*
192
Zizyphus vulgaris - - - 86, 542
Zygopetalum Mackaili - - - 299

LIST OF FRUITS.

Almonds 54. 109. 158. 213. 270. 327. 440. 551
 Apples - 47. 54. 109. 158. 213. 221. 270. 327. 383.
 440. 495. 551. 606. 607. 693. 698. 699. 701. 703.
 704. 710. 712
 Apples, List of - 34. 110. 209. 216. 607. 608
 Apricots - - - 223. 270. 440. 495
 Apricots, List of - - - - - 36
 Berberries - - - - - 551. 606
 Cherries - 222. 270. 327. 383. 439. 440. 695. 696
 Cherries, List of - - - - - 36
 Chestnuts - - - - - 54. 109. 213. 606
 Cranberries - - - - - 158. 213
 Cucumbers - 47. 109. 158. 213. 270. 327. 383. 440.
 495. 551. 699. 717
 Currants - - - 223. 439. 440. 495. 695. 696
 Currants, List of - - - - - 36
 Damsons - - - - - 551
 Elderberries - - - - - 551
 Figs - - - - - 704
 Figs, List of - - - - - 38. 712
 Filbert Trees - - - - - 184
 Filberts - 54. 213. 270. 495. 551. 606. 704
 Filberts, List of - - - - - 37
 Gooseberries - 270. 327. 383. 440. 696. 712
 Gooseberries, List of - - - - - 36. 48
 Gooseberries, List of the heaviest in 1835 - 680
 Grapes - 54. 109. 158. 185. 213. 221. 270. 327. 383.
 438. 439. 440. 495. 551. 607. 698. 701. 702. 703.
 704. 712
 Grapes, Hamburgh - - - - - 546
 Lemons - 54. 109. 158. 213. 270. 327. 383. 440. 495.
 551. 606. 696
 Medlars - - - - - 54. 109. 710
 Melons - - - 221. 382. 439. 440. 495. 551
 Mulberries - - - - - 495. 551
 Nectarines - 383. 439. 440. 495. 551. 696. 702. 704

Nectarines, List of - - - - - 53
 Nuts, Barcelona - 54. 158. 270. 327. 363. 440. 495.
 551. 606
 Nuts, Brazil - 54. 158. 270. 327. 363. 440. 495. 551
 606
 Nuts, Spanish - 54. 109. 158. 213. 270. 327. 606.
 704
 Nuts, Turkey - - - - - 383. 440. 495. 606
 Oranges - 54. 109. 158. 213. 270. 327. 383. 440.
 495. 696. 710
 Oranges, Bitter - - - - - 158. 213
 Peach, the Newington - - - - - 381
 Peaches - 222. 327. 383. 439. 440. 495. 551. 606.
 607. 703. 704. 712
 Peaches, List of - - - - - 35
 Pears - 54. 109. 158. 185. 213. 221. 321. 495. 551.
 606. 607. 693. 701. 704. 710
 Pears, List of - - - - - 35. 608
 Pine-apples - 54. 109. 158. 213. 321. 270. 327. 382,
 383. 438. 440. 495. 551. 606. 693. 698. 703. 704.
 713. 717
 Pine-apples, List of - - - - - 37
 Plums - 223. 495. 551. 607. 701. 704
 Plums, Fonthill - - - - - 704
 Plums, List of - - - - - 36
 Quinces - - - - - 54. 606
 Raspberries - - - - - 54. 223. 440
 Raspberries, List of - - - - - 37
 Strawberries - 54. 213. 223. 270. 327. 382. 383. 439.
 698. 699. 710. 717
 Strawberries, List of - - - - - 37
 Strawberry - - - - - 680
 Vines, Culture of - - - - -
 Vines, List of - - - - - 37
 Walnuts - - - - - 185. 440. 551. 606

LIST OF CULINARY VEGETABLES.

Angelica Stalks - - - - - 327
 Artichokes - - - 41. 157. 495. 551. 606
 Asparagus - 54. 109. 157. 158. 213. 270. 327. 383.
 693. 698. 717
 Basil - 54. 109. 158. 213. 270. 327. 383. 440. 495.
 551
 Basil, dried - - - - - 606
 Beans - - - - - 383. 440. 495
 Beans, Scarlet - - - - - 440. 495. 551
 Brassica Tribe:
 Broccoli - 54. 109. 158. 213. 270. 327. 551. 606.
 699. 717
 Brussels Sprouts - 54. 109. 158. 213. 223. 606
 Cabbages - 40. 54. 109. 158. 213. 270. 327. 383.
 440. 495. 551. 606. 696
 Cauliflowers - 54. 225. 270. 327. 383. 440. 551.
 606
 German Greens, or Kale - 109. 158. 213
 Savoy - - - - - 54. 109. 158. 213. 606
 Burnet - - - - - 213
 Capsicums - - - 54. 109. 495. 551. 606. 704
 Carrots - 40. 54. 109. 158. 213. 270. 327. 383. 440.
 495. 551. 606
 Celery - 41. 54. 109. 158. 213. 223. 270. 327. 383.
 495. 551. 606
 Chenopodium *Quinda* (substitute for spinach,
 millet, or rice) - - - - - 608
 Chiles - - - - - 704
 Chives - - - - - 270
 Endive - 54. 109. 158. 213. 225. 270. 551. 606. 717
 Fennel - 54. 109. 158. 213. 270. 327. 383. 440. 495.
 551. 606
 Garlic - 54. 109. 158. 213. 270. 327. 383. 440. 495.
 551. 606
 Gourds - - - - - 551. 606. 704
 Horseradish - 54. 109. 158. 270. 327. 383. 495. 551.
 606
 Jerusalem Artichokes - 54. 109. 158. 213. 270.
 327. 606
 Kidneybeans - 40. 158. 213. 224. 270. 327. 383.
 440. 551. 606. 699. 710
 Lavender - 54. 109. 158. 213. 270. 327. 440. 495

Lavender, dried - - - - - 606
 Leeks - 109. 158. 213. 270. 440. 495. 551. 606
 Lettuce - 54. 109. 158. 213. 270. 327. 383. 495. 551.
 606. 693. 717
 Marjoram - 54. 109. 158. 213. 270. 327. 383. 440.
 495. 551. 606
 Mint - 54. 109. 158. 213. 270. 327. 383. 440. 495.
 551. 606
 Morels - 54. 109. 158. 213. 270. 327. 383. 440. 495.
 551. 606
 Mushrooms - 54. 109. 158. 213. 270. 327. 383. 495.
 551. 606. 699
 Onion, Silver-skinned under-ground - 618
 Onions - 54. 109. 158. 213. 224. 270. 327. 383. 440.
 495. 551. 606
 O'xalis crenata - - - - - 40. 212
 Parsley - 54. 109. 158. 213. 270. 327. 383. 495. 606.
 Parsneps - 54. 109. 158. 213. 270. 327
 Peas - 40. 224. 270. 327. 383. 440. 495
 Peppermint - 54. 109. 158. 327. 383. 440. 495. 551
 Peppermint, dried - - - - - 606
 Potatoes - 40. 54. 109. 158. 213. 269. 270. 327. 383.
 440. 495. 551. 606
 Radish, Spanish - - - - - 701
 Radishes - 54. 109. 158. 213. 270. 327. 383. 495.
 551. 606
 Red Beet 54. 109. 158. 213. 270. 327. 495. 551. 606
 Rhubarb Stalks - 109. 158. 213. 327. 383. 693. 696.
 717
 Rosemary - 54. 109. 158. 213. 270. 327. 383. 440.
 495. 551. 606
 Sage - 54. 109. 158. 213. 270. 327. 383. 440. 495.
 551. 606
 Salsify - - - - - 54. 109. 158. 213. 551
 Samphire - - - - - 440. 551
 Savory - 54. 109. 158. 213. 270. 327. 383. 440. 495.
 551. 606
 Scorzonera - 54. 109. 158. 213. 270. 551. 606
 Sea-kale - 54. 109. 213. 270. 327. 693. 699
 Shallots - 54. 109. 158. 213. 270. 327. 383. 440. 495.
 551. 606
 Skirret - - - - - 54. 109. 158. 213. 551. 606

Small Salads	- 54. 109. 158. 213. 270. 327. 383. 495.	Thyme	- 54. 109. 158. 213. 270. 327. 383. 440. 495.
Sorrel	- 54. 109. 158. 270. 327. 440	Tomatoes	- 54. 495. 551. 606
Spinach	- 41. 54. 109. 158. 270. 327. 383. 440. 551.	Truffles	- 54. 109. 158. 213. 270. 327. 383. 440. 495.
	606. 704		551. 606
Spinach, New Zealand	- 551	Turnips	- 40. 54. 109. 158. 213. 225. 270. 327. 383.
Tansy	- 54. 109. 213. 327. 383. 440		440. 495. 551. 606
Tarragon	- 54. 109. 158. 213. 270. 327. 383. 440.	Vegetable Marrow	- 495. 551. 606
	495. 551. 606	Water Cress	- 54. 158. 213. 270. 327. 383. 551

LIST OF GARDENS AND COUNTRY SEATS.

Allesley Rectory	- 526. 551	Broxbourn Bury	- 605	Karwinsky, Baron	- 299
Alnwick Castle	- 387	Bryanston House	- 333	Knight, Joseph	- 381
Althorpe	- 44	Bywell Hall	- 209	Lane, Mr.	- 544
Annat Gardens	- 178	Cairn Sulloch	- 176	Laurence, Mrs.	- 381
Arboretums:		Cally	- 378	Lee Lee, Esq., M.P.	- 705
Goldworth	- 501	Cambridgeport	- 533	Lemon, Sir C.	- 531
Loddiges's	- 28	Canford House	- 331	Lords' Cricket Ground	- 378
London Hort. Soc.	- 28. 30	Canon Mills	- 26. 432		
Milford	- 505	Carclew	- 529	Mangles	- 176
Arley Hall	- 211. 267	Carnworth	- 49	Marryat, Mrs.	- 144. 266.
Arniston	- 176	Caserta	- 150. 632		527
Avondale	- 210	Castle Howard	- 17	Mechelynk, M.	- 273
Ascot Park	- 29	Castle Menzies	- 175	Mills, J. P., Esq.	- 361
Auchenbowie	- 322	Castlemacgarrett	- 688	Mountjoy, Mr.	- 544
Bagshot Park	- 52. 360. 502	Cemeteries:		Oaks, Sir H. T.	- 274
Ballo, the	- 178	Boston	- 195	Parker, T. N., Esq.	- 381
Ballysagartmore	- 473	Mount Auburn	- 152	Paul, Mr.	- 544
Barnhill	- 177	Chatelherault	- 42	Pendarvis, E., Esq.	- 359
Bear Wood	- 502	Chatsworth	- 386. 524	Press, Mr.	- 544
Beaulieu	- 553	Cheshunt	- 135. 266	Reynders, M.	- 274
Belladrum	- 555	Chilton Hall	- 321	Saul, Mr.	- 321. 325
Belmont Castle	- 178	Chiswick Gardens	- 434	Shaw, R. F., Esq.	- 708
Belmont Place	- 532	Church Stretton	- 186	Smith, Mr. W.	- 375
Bicton, 51, 52. 71. 137. 237. 267.		Claremont	- 29. 78	Strangways, Mrs.	- 705
	551	Clockhouse Garden, Chelsea	- 44	Surrey, Earl of	- 709
Bingham	- 547			Sutton, Capt.	- 531
Blair	- 176	Clumber House	- 387	Talbot, G. J. P., Esq.	- 360
Botanic Gardens at		Coed Ithil	- 207. 267	Thom, Mr.	- 32
Antwerp]	- 431	Columbus	- 483	Thornton, Mr. R.	- 705
Berlin	- 541	Combe-la-Ville	- 206	Tongue, R., Esq.	- 373
Birmingham	- 73. 84. 295.	Coomb Wood	- 236	Van Geert, M.	- 275
	525. 528	Coul	- 52. 553	Verschaffelt, M.	- 275
Brussels	- 628	Craigie Hall	- 322	Waller, Sir Walter	- 565
Buenos Ayres	- 636	Croome	- 44	Woestyned'Hane, M.	- 274
Bury St. Edmund's	- 43	Cuffhells	- 45. 208. 329	Glamis	- 520
Calcutta	- 633	Cypress Grove	- 438	Gogar	- 322
Cambridge	- 38. 155	Dalkeith	- 322. 491. 713	Golden Grove	- 359
Chelsea	- 248. 422. 530	Deepdene	- 508. 545	Gordon Castle	- 49
Edinburgh	- 73. 322. 432.	Delvin	- 177	Gorthy	- 177
	477. 524. 605	Ditton Park	- 266	Gray House	- 49. 176
Ghent	- 628	Downton Castle	- 368	Great Bookham	- 265
Glasgow	- 77. 144. 321.	Duddingston	- 322	Hackney Grove	- 46
	421. 475. 478. 526. 608	Dunkeld	- 175	Hadoo House	- 552
Glasnevin	- 149	Dupplin Castle	- 176. 178	Haffield	- 582
Jardin des Plantes	- 229	Earl's Court	- 47	Hale's Hall	- 15
Kew	- 77. 98. 380. 424	Eastborough	- 103	Halket Place	- 431
	555. 588	Elvaston Hall	- 360	Ham Green	- 361
Liverpool	- 646	Errol Park	- 178	Ham House	- 684
Louvain	- 85	Exbury	- 45	Hamble	- 536
Lyons	- 52	Farnham Castle	- 503	Hampton Court Palace	- 44
Manchester	- 489	Fingask	- 178	Harringay	- 44. 69
Metz	- 29	Fonthill Abbey	- 441	Hath Beauchamp Parsonage	- 250
Montpelier	- 94	Fulham Palace	- 44. 565		
Munich	- 72. 480	Gardens of:		Hawthorn Grove	- 533
Oxford	- 209. 359. 545	Antrobus, Sir E.	- 544	Hayes's Common	- 146
Paris	- 229	Bald, Mr.	- 712	Hayes's Place	- 146. 267
Petersburg	- 263	Bath, Marquess of	- 361	Heath House	- 133
Rio Janeiro	- 636	Bethell, G. R., Esq.	- 708	Henham Hall	- 45
Saharunpore	- 633	Boddaert, M.	- 274	Hermitage	- 95
Sheffield	- 437. 534	Boursault, M.	- 229	Hestercombe	- 361
Stockwell	- 108	Bourne, W. S., Esq.	- 321	High Clerc	- 29. 44. 430. 490
Sydney	- 94	Byers, Robt., Esq.	- 269	Hinchingbrook	- 418
Trinity College, Dublin	- 50. 144	Don, Colonel	- 714	Hingham	- 32
		Fitzwilliam, Earl	- 709	Holt	- 204
Twickenham	- 45. 152. 500	Fleming, Capt.	- 359	Hopeton House	- 150. 176
Bothkennar Mains	- 38	Harrison, Rich., Esq.	- 192	Hornby Castle	- 56
Boyton House	- 473. 680	(Liverpool)		Horticultural Gardens:	
Brahan Castle	- 553. 557	Harrison, William, Esq.	- 528	Edinburgh	- 30. 38
Bretby	- 324	(Cheshunt)		London	- 44. 325. 374. 438.
Bretton Hall	- 209	Hogg, Mr. (Paddington)	- 387		494. 607
Bridge End	- 176			Houghton Park	- 321
Bridge of Perth	- 175	Horsefield, C.	- 299	Hurstley Park	- 362
Brinley Place	- 32	Horsfall, Chas., Esq.	- 529	Hyde Park, New York	- 198
Brooklyn	- 531. 532	Huythens-Kerremans	- 273	Inverary	- 178

Kedleston House - - - 552	Fulham - - - 152. 249	Imaginary Scenery - 647
Keith Hall - - - 49	Giddings and Rees's - 705	For Exercise :
Kenet - - - 712	Gill's - - - 705	Parks - - - 646. 652
Kenwood - - - 29. 44. 565	Glazenwood - - - 375	Promenades - - - 646. 650
Kilcullen - - - 50	Goldworth - - 267. 497	Public Squares - - 646
Killerton - - - 52	Groome's - - - 266	For Recreation and Re-
Kilmington Rectory - 297	Hammersmith - 84. 561	freshment :
Kimbolton - - - 28	Hammond and Stevens's - 705	Archery Grounds - - 647
King's Meadows - - - 56	Handsworth - - 546. 549	Tea Gardens - - - 647
Kingston Hall - - - 332	Handyside's - - - 713	For Burial :
Kinmel Park - - - 546	Havraud's - - - 79	Cemeteries - - - 647
Kinmoul Park - - - 680	Hounslow - - - 330	Churchyards - - - 647
Kippen Cross - - - 49	Humbque - - - 537	Gardens - - - 646
Kirkmichael - - - 192	Lake and Evans's - 705	Purser's Cross - - - 361. 566
Knedlington - - - 250	Lawson's - - 106. 197. 431	Rainier's Villa - - - 161
Knypersley - - - 74. 191	Leeds's - - - 422	Rait Gardens - - - 175
Langton House - - - 332	Lees's - - - 84. 351	Rambouillet - - - 42. 205
Leigh Castle - - - 73	Lellington - - - 384	Rangen's Lodge - - - 47
Leigh Court - - - 361	Lewisham - - - 38	Redleaf - - - 45. 208
Leigh Park - - - 111	Leyton - - - 686	Relic - - - 555
Leixlip Castle - - - 438	Loddiges's - - - 261	Ridgway House - - - 566
Lewiston House - - - 46	Mackay's (Norwich) - 78.	Robeg - - - 555
Livermore - - - 45		Rossie Priory - - - 178
Loiret - - - 537		Roxbury - - - 533
Longleat - - - 361	Manning and Bray's - 381	Saughton Hall - - - 322
Lougharne Castle - - 438	Mile End - - - 294. 380	Sesto St. Giovanni - - 659
Lower Broughton - - 489	Milford - 144. 268. 497. 505	Short Grove - - - 63. 132
Luchet - - - 42	Miller's - - - 711	Sketty Hall - - - 680
Luscombe - - - 52	Montreal - - - 33	Skipton - - - 105
Maesbury - - - 268	Norbiton Common - 297	Somerley House - - - 351
Maeslaugh Castle - - 361. 469	Norwich - - - 78. 208	Somerset Place - - - 533
Malmaison - - - 45	Oldford - - - 479	Spofforth - - - 193
Mamhead - - - 44. 52. 127	Paddington - - - 424	St. Ann's Hill - - - 501
Meriden - - - 71	Page's - - - 60	St. Martin's - - - 51
Merton Park - - - 360	Pope and Sons - - 706	Stamford Hill - - - 687
Methven Castle - - - 49. 176	Preston - - - 40	Stoke Place - - - 12
Milford House - - - 505	Reed's - - - 106	Stourhead - - - 335
Mitcham - - - 566	Rogers's - - - 61	Strangways, Hon. W. F. - 74
Moncrieff House - - - 177	Ronald's - - - 499	Stratford Green - - - 685
Monymusk - - - 48. 552	Sawbridgeworth - 24. 378	Sunbury - - - 500
Montagu House - - - 515	Sisley-Vandael's - - 205	Sutton Parsonage - - 45
Monza - - - 639	Tarascon - - - 31. 94	Sweeney Hall - - - 268
Moredun - - - 322	Thompson's - - 294. 380	Syon House 44. 498. 532. 565
Motcombe House - - 335	Tooting - - - 84	Syston Park - - - 45
Mount Edgcombe - - 44. 52	Trianon - - - 50	Tatton Park - - - 287
Mount Grove - - - 566	Urquhart's - - - 432	Tay Bank - - - 177
Mount Wellington - - 570	Verleewen's, M. - 275	Terenure - - - 269
Muir of Ord - - - 553	Verplancke's, M. - 273	Testwood - - - 321
Myginich Castle - - - 178	Wakefield - - - 476	Thainston - - 106. 153. 178
Nettlecombe - - - 209	Young's - 84. 376. 381. 508	The Fryars - - - 711
New Haven - - - 483	Oak Hill - - - 24. 254	The Grange - - - 57
Newbattle Abbey - - 49	Oakley Place - - - 533	Tippermallo - - - 177
Norbiton Park - - - 602	Old Rayne - - - 552	Tottenham Park - - 387. 602
North Stoneham Park - 162	Ormiston-Hall - - 178	Trelisick - - - 266
North Stoneham Parsonage 59	Oulton Park - - - 350	Tuilleries - - - 537
Northenwood - - - 329	Pakenham Hall - - 682	Tulloch Castle - - - 557
Nurseries :	Parham Park - - - 183	Upton - - - 566
Algiers - - - 482	Paulton's Park - - 163	Versailles - - - 42. 228
Alloa - - - 712	Pennyquick - - - 322	Walmer - - - 112
Backhouse - - - 298. 338	Pepper Harrow Park - 506	Walton - - - 29. 84. 427
Balgonie - - - 714	Percy's Cross - - - 44	Walton Hall - - - 155
Bedford - - - 56	Peuta - - - 481	Wardour Castle - - 433
Blandford - - - 333	Pinkie - - - 322	Waterbeach - - - 321
Brechin - - - 417	Pitfour - - - 175	Welbeck - 367. 387. 435. 490
Bristol - 26. 105. 359	Pitmaston - - - 38	Welling - - - 359
Buchanan - - 361. 544	Pittriviers - - - 42	Wentworth House 153. 193.
Chandler's - - - 84. 267	Pousonby Hall - - 359	387
Chester - - - 319	Port Elliot - - - 44	West Pleau - - - 322. 324
Clapton - 5. 142. 474. 488	Powderham Castle - 44. 52	Whin, The - - - 322
Colvill's - - - 84. 422	Public Gardens—Scientific :	White Knights; 44. 497. 502.
Comeley Bank - - - 75	Agricultural - - - 647	532
Dartford - - - 494	Arboretums - - - 647	Whitmore Lodge - - 27. 105
Den, Brechin - - - 715	Botanical - - - 646	Whitton - - - 564
Dennis's - - - 76. 425	British Floras - - 647	Willoughby Hedge Gate 338
Dickson and Turnbull's 106. 328	Exotic - - - 647	Willows, The - - - 360
Donald and Westland's 508	Geographical - - 647	Wilton - - - 44
Drummond's 106. 196. 716	Geological - - - 647	Wimborne - - - 332
Dundee - - - 432	Herbacetums - - 647	Wimpole - - - 323. 359
Epsom - 84. 376. 384. 508	Horticultural - - 646	Woburn Abbey - - - 387
Exotic - 43. 45. 73. 84. 132.	Local Floras - - - 647	Wondelghem - - 268. 278
145	Plantariums - - - 647	Woodhall - - - 295
Fairbairn's - - - 7. 143	Zoological - - 646. 654	Woodhouselee - - - 322
Fenn and Laws's - - 705	Landscape :	Woolsley Bridge - - 325
Flötbeck - - - 206	Artistical Imitations of	Zoological Gardens :
Frankfort - - - 265	Natural Scenery - 647	Regent's Park 320. 433. 458.
Fromont - - - 206	Fac-simile Imitations of	256
	Natural Scenery - 647	387
	Geometrical Scenery 647	Surrey 320. 378. 544. 566.
		705

LIST OF HORTICULTURAL, BOTANICAL, AND FLORICULTURAL SOCIETIES.

Anglesea - - - 711	Dundee - - - 715	North Devon - - - 699
Auchenbowie and West Plean - - - 322	Dunfermline - - - 713	North Riding Hort. and Flor. - - - 707
Bath Royal Hort. and Floral - - - 704	East Riding Hort. and Floral - - - 707	North Walsham - - - 702
Beccles - - - 705	Falkirk - - - 712	Norwich - - - 701
Bedale - - - 709	Felton Florists' - - - 703	Norwich Florists' Show - - 702
Bedford Grand Horticultural Exhibition - - - 692	Fifeshire County - - - 210	Ornamental Tree - - - 207
Bedlington Horticultural and Floricultural - - 703	Glasgow - - - 716	Paisley Florists' - - - 716
Belfast - - - 153. 717	Glastonbury Hort. and Floral - - - 705	Plean - - - 716
Birmingham Bot. and Hort. - - - 706	Guernsey - - - 710	Radford Spring Show - - - 703
Brampton and Wath - - 702	Hampshire - - - 699	Reading - - - 693
Bristol and Clifton - - 699	Hereford - - - 699	St. Andrew's Hort. and Floral - - - 713
Brompton and Walton Flor. - - - 696	Hertford - - - 700	Salisbury and West of England Dahlia Show - - 707
Bury - - - 705	Hinckley Floral and Hort. 700	Sheffield - - - 709
Cambridgeshire - - - 693	Holt - - - 701	South Durham and Cleve- land - - - 699
Cambridgeshire Florists' 694	Hull and East Riding Floral and Hort. - - 708	South London - - - 705
Caledonian - - - 378	Hunslet Florists' - - - 709	Stirling - - - 322
Carlisle - - - 695	Ilkeston Florists' and Hort. 703	Stowmarket - - - 705
Chippenham Dahlia Show 707	Jersey Agri. and Hort. So- ciety - - - 710	Swansea and Neath - - - 711
Clackmannanshire - - 712	Kilkenny - - - 717	Taunton and West So- merset - - - 704
Colinsburg - - - 713	Lancashire Dahlia Show - 701	Twydareath Rural Gar- dening - - - 695
Cornwall Royal - - - 694	Lenton Dahlia Show - - 703	Ulster - - - 717
Cromlington Florists' - 703	London 110. 214. 266. 325. 381. 438. 597. 607	Warwickshire Floral and Hort. - - - 706
Cupar - - - 714	Malton - - - 709	Waterford - - - 718
Dereham - - - 701	Marlborough Annual Dah- lia Show - - - 707	West Rainton Florists' - 699
Devon and Cornwall Royal Bot. and Hort. - - - 698	Massachusetts - - - 531	West Riding - - - 707
Devon and Exeter Bot. and Hort. - - - 488. 696	Metropolitan Society of Florists and Amateurs 55. 266. 378. 433. 544	Westmeath - - - 717
Devon and Exeter Flori- cultural - - - 698	Mid-Lothian - - - 713	Whitby Floral and Hort. 709
Diss - - - 701	Montrose - - - 715	Whitehaven - - - 696
Doncaster - - - 708	New Lenton Dahlia Show 703	Wilts and General - - - 706
Dorset - - - 699	Newark Floral and Hort. 703	Winlaton Florists' - - 703
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THE
GARDENER'S MAGAZINE,
JANUARY, 1835.

ORIGINAL COMMUNICATIONS.

ART. I. *A brief Account of Mr. Colley's Botanical Researches in Guiana.* By JAMES BATEMAN, Esq. F.L.S. H.S. &c.

AGREEABLY to my promise, I send you a brief account of Mr. Colley's botanical researches in Guiana; which I have taken either from some rough notes made on the spot by himself, or from the account which, since his arrival in this country, he has given me of his adventures on the other side of the Atlantic.

On Dec. 24. 1833, he sailed from Liverpool; and on Feb. 20. 1834, arrived at George Town, Demerara: his object being to collect for me the botanical and other natural curiosities of the country, but more particularly the different species of Orchideæ: a tribe of plants which has of late years interested the public in an unexampled manner; and which, most certainly, deserves in full all the attention that it has received.

The vegetation in the immediate vicinity of George Town being comparatively destitute of interest, Mr. Colley's first step was to proceed in a canoe up the Demerara river, accompanied by a few negroes. Small as is the appearance which the Demerara makes on the map of South America, it is as large a stream as our own Thames; and flows, for more than a hundred miles of its course, through an almost level country, its banks, except in the neighbourhood of George Town, being clothed with one vast aboriginal forest. At the time of Mr. Colley's arrival, the colony was suffering severely from drought, and the wet season was daily expected to begin; but, for four months afterwards, no considerable quantity of rain fell: a circumstance which was very favourable to the object of his mission; for not only was travelling through the woods and on the rivers safer and more easy, but the plants were many of them covered with ripe seeds; and the pseudo-bulbs of the Orchideæ were in a state admirably suited for their passage to this country.

I shall now attempt to convey some idea of the aspect of vegetation on the banks of the Demerara; which, though not

so large a stream as the Essequibo, Massaroni, Corgooni, Berbice, and other rivers which were afterwards visited, partakes more or less of the characters of them all. The forest (or, as it is there called, "the bush") usually hangs over, or approaches near to, the stream; and, to a European eye, wears a rich but rather monotonous aspect; relieved only by the "crowned heads" of the majestic palms, or the broad-spreading foliage of the banana. If we except the "silk-cotton tree," the trunk of which is found of prodigious diameter, the trees are not usually of very large growth: indeed, the redundancy of vegetation, while it contributes to the denseness of the forest, must naturally have a tendency to diminish the size of the individuals of which it is formed. The "bush rope," and many splendid climbers, hang in light and elegant drapery round the higher parts of the trees; while their trunks and lower branches actually bristle with the various species of *Tillandsiæ*, *Orchidéæ*, *Aröidéæ*, and ferns; among which the right of "tree-room" is divided, the *Tillandsiæ* having the largest share. *Epiphyllum speciosum* is also found growing as an epiphyte, but has never a vigorous appearance.

Flourishing as the various epiphytes appear, and securely seated as they seem to be out of the reach of harm, there is, nevertheless, a war of extermination continually going on among themselves, as violent as that of the wild beasts which rove beneath their feet. The seed of an orchideous plant vegetates on some naked portion of a tree; pseudo-bulb after pseudo-bulb is formed, and the plant in time arrives at maturity, and begins to bloom; presently, a rapidly spreading fern advances up the branch, and, fixing its unrelenting stolones among the clustered pseudo-bulbs of the orchideous plant, literally tramples it beneath its feet. Next comes the seed of some huge *Tillandsia*, which, germinating among what you may almost term the "fur" of the fronds and base of the fern, thrusts its wire-like roots into its very vitals, and soon raises over its head a pyramid of prickly leaves. Perhaps, too, while in the height of its glory, the tyrant *Tillandsia* may itself feel the strangling grasp of a "bush rope;" and thus, in its turn, be driven from its station. Such is the kind of vegetable retribution which is always going on, in damp tropical forests, among a tribe of plants which, indeed, form noble substitutes for the mosses and lichens which assume their places in our own woods. It might be expected that, where such numerous epiphytes flourish, moss would also be found in abundance. The reverse, however, is the case: scarcely a handful could be collected in a day; and, when observed at all, it is generally found extending, in a narrow strip, from the trunk to the branches. This scarcity of moss is severely felt by the botanical collector; for it forms, in a dry state, by far the best substance in which *Orchidéæ* and many other plants can be packed.

I would, therefore, recommend any future collector, who may visit these countries, to carry out with him a quantity of dry moss; of which a large supply may be pressed into a very small compass; so small, indeed, that the room it would occupy, in the passage out, need not at all be taken into consideration.

Amaryllidææ are here very rare, Mr. Colley having found only about half a dozen species: these, however, are expected to prove new. Of Irídeæ and Scitamíneæ no species were found; indeed, with the exception of the occupants of the trees, the vast alluvial flats of the country are almost entirely destitute of *herbaceous* plants. It is in the broken ground, the diversity of soil, situation, and exposure, such as is only to be met with among mountains, that species of herbaceous genera are to be sought; and Mr. Colley, unfortunately, though he penetrated many hundred miles up the different rivers of the interior, never encountered any considerable rising ground, except at the great falls of Essequibo, up which, owing to an accident, he was unable to pass. From the Corgooni, some great blue mountains were observed in the distance; but there is no record of their ever having been visited by any human being; the Indians having an insurmountable horror of any attempt of the kind, and the settlers being deterred from the undertaking by the expense and labour which would attend the cutting of a way through the tangled forests which extend to their base. This difficulty of access is much to be deplored, as there can be no doubt they would yield a rich botanical harvest.

I must not omit to mention two remarkable plants, highly prized by the wild Indians as the only remedies for the bites of the Labarri and Counacouchi snakes; from which, too, the plants borrow their names. These plants are probably species of *Arum*, and have stems about a foot high, which, in the larger kind, are speckled exactly in the manner of the Counacouchi snake; while, in the smaller, the resemblance is no less striking to the Labarri. We have here a striking instance of the benevolence of the Deity, who not only places the antidote in the neighbourhood of the poison, but directs the attention of the savage to the remedy by the likeness which it presents to the reptile which inflicts the wound. How far the healing properties of these plants may be exaggerated, I cannot tell; but a strong corroboration of their efficacy may be found in the first volume of Captain Alexander's *Transatlantic Sketches*. As the question is, however, an important one, I rejoice to say there is a prospect of its being settled, since both species have reached me in safety, and are now shooting out.

Orchídeæ being, as I have already mentioned, the principal object of Mr. Colley's expedition, I will here bring forward a few particulars which I have gathered respecting their habits,

&c. &c. They are by no means scattered in every direction, or on every tree; but appear very capricious in their choice of situation. A river may be ascended for twenty miles without an orchideous plant being seen; while, on a sudden turn of the stream, every tree becomes covered with them: yet they do not appear to have a favourite aspect; for, on some of the rivers which Mr. Colley visited, he found them exclusively on the northern exposure, while, on others, they occupied the southern. The situations in which they are most usually found are those parts of a forest where old and broken wood occurs, or on the skirts of the savannas. These savannas are large open breaks in the woods, covered with fine white sand, which has, at night, the appearance of snow. They contain, also, many low and stunted bushes. The *Orchidéæ* seem to like an airy and exposed dwelling-place; being found on the more prominent parts of a tree, and not in the shade, as is generally supposed. Mr. Colley only found in one instance an orchideous plant in the heart of a forest; and this was growing on the prostrate trunk of a tree, so rotten as to fall to pieces when pressed with the foot. This plant is expected to prove of an entirely new genus. In the large river Berbice, the *Orchidéæ* were seen seated on the summits of such high trees that it was necessary, in order to get possession of them, to cut down the trees on which they grew. What would be thought, in this island, if a person were to cut down a tree to bring him within reach of a weed? for in no other light are these glorious plants regarded abroad, which here actually sell for five, ten, or even fifteen guineas apiece. It may be asked, "Why not climb the trees?" This is quite out of the question; for they swarm to such a degree with the great black ants, scorpions, and snakes, that nothing would induce even an Indian to venture to ascend them. The plants themselves, when torn from the tree, require very dainty fingering, being frequently made the lurking-place of some scorpion, or of a nest of these fiery ants. The best way is to plunge them instantly into water, which either drowns or ejects all these dangerous lodgers.

In consequence of the unexampled length of the dry season at the time of Mr. Colley's visit, scarcely an orchideous plant was seen in flower, or a pseudo-bulb which had not lost its leaves. When, however, the rains had commenced, which was just before he quitted the colony (i. e., in the month of July), the *Orchidéæ* were pushing rapidly into flower, as are also some of those collected by Mr. Colley, which reached this country in as dry and shrivelled a state as Dutch bulbs usually come over in. This may afford a hint for their cultivation.

While speaking of their cultivation, I must not forget to mention that many, particularly of the larger species, of the Or-

chídeæ already introduced are said by Mr. Colley to grow much finer in the collections of this country, than he ever saw them in their native habitats. During his stay in Demerara, the thermometer ranged from 80° to 88°, and was higher in the wet season than in the dry. This last circumstance ought never to be lost sight of by cultivators. The terrestrial species of Orchídeæ bear a very small proportion to the epiphytal; for only three of them were found, and all of them species previously introduced; namely, *Líparis elàta*, *Cyrtopèra Woodfórdii*, and *Cyrtopòdium Andersónii*. From the bruised fleshy stems of the latter, and also from those of the different species of *Catasètum*, a viscid matter is obtained by the Indians, and used as an ingredient in the “Wourali poison,” which it renders so glutinous as to adhere with facility to the barbs of their arrows. As any mention of the “Wourali poison” instantly brings the illustrious Waterton into recollection, it is interesting to know that Mr. Colley met with an Indian who had accompanied him, and who was one of the heroes who figured in the never to be forgotten conflict with the cayman.

As the collectors of Orchídeæ will be anxious to know how many species have been obtained by Mr. Colley, and have reached England in a living state, I am happy to have it in my power to say, that no fewer than sixty have arrived alive, of which I have no doubt at least one third are new to European collections; and had it not been for a very rich importation brought last autumn from Trinídad, to Kew, by Mr. Aldridge, and one still richer from Surinam, brought over last winter, by Mr. Lance, two thirds, instead of one, would have been seen in this country for the first time. Both the above importations coming from parts which approach very near the northern and southern boundaries of Mr. Colley's wanderings, contained, as might be expected, many species which are also met with in Demerara and Berbice. As the space of ground traversed by Mr. Colley will not probably yield a circle of more than 250 miles' diameter, sixty appear a large number of species to be collected in a single family; and to these must be added several sent by Mr. Henchman to Mr. Low of the Clapton Nursery, which are, I hear, distinct from any brought over by Mr. Colley, while many of those discovered by the latter collector were not met with by the former. So scarce, indeed, are some of the species, that they were only found in a single spot; nay, of one or two kinds Mr. Colley only obtained a single plant. Of some species, on the other hand, there is a vast profusion; *Catasètum tridentàtum*, and *Stanhòpea grandiflòra*, for instance, being met with not only in every part of Demerara, but along the whole line of coast from Cumana to Rio Janeiro. Not more than four or five different species of Orchídeæ

were ever found growing on the same tree. Perhaps the most beautiful epiphyte yet introduced to this country is one which has recently flowered at Messrs. Loddiges's, and which is called by Dr. Lindley, in honour of its discoverer, *Oncidium Lance-anum*. It is remarkable that this plant afforded the only instance observed by Mr. Colley of the attention either of the settlers or natives being attracted by *Orchideæ*. In proceeding up the large river, he met with a man who had growing near his door, a plant of this species, which, according to his account, had arrested his notice by its delightful and powerful fragrance, long before he either saw the plant or could find where it grew. Neither money nor entreaty could induce him to part with it; and though he took Mr. Colley to the spot where he obtained it, not another morsel of it could be found: Mr. Colley, however, met with it in another place.

It may be asked, "How are you to know how many, if any, of the plants will be new?" To this I reply, that, although there are upwards of three hundred in cultivation, among which there is so strong a family likeness that many persons, especially ladies, are perpetually pronouncing them to be "all exactly alike;" still so wonderfully are the pseudo-bulbs and stems varied, that an eye conversant with *Orchideæ* will at first sight pronounce a species to be newly or previously introduced, and very rarely prove mistaken in its decision.

Among the general collections of Mr. Colley are the seeds of many beautiful climbing plants, several of which there is every reason to believe new, inasmuch as Mr. Colley, though well acquainted with the different plants cultivated in our stoves, has never seen anything at all like them before. There are also seeds, somewhat resembling those of the beech, borne in large clusters, from which the Indian belles obtain a reddish orange colour, which they use to heighten the beauty of their complexions.

For the benefit of future collectors, I must warn them against the use of an Indian-rubber cloak in a tropical country; for the heat of the sun soon melts the preparation, which, of course, not only ceases to exclude the wet, but glues itself to the skin.

It now only remains for me to add of Mr. Colley, that, though often exposed to the drenching dews of night, in a hammock slung between two trees, and though harassed by privations in every form, still such was his iron constitution, that, during the whole five months of his stay, he enjoyed the most perfect health. This, and his own enthusiasm for the pursuit, eminently fit him for a botanical collector; and, as he has so satisfactorily fulfilled his engagement to me, I should have great pleasure in recommending him to any society or individual who might be disposed to employ him in a similar capacity.

Mr. Colley was for some time in the employment of Mr. Knight of the Exotic Nursery, and more recently had become foreman of Mr. Fairbairn's Nursery. His address is now changed to 25. Ernest Street, Albany Street, Regent's Park. If unable to obtain an engagement as a collector, he would be glad of a situation as a curator of a public or private garden.

Knypersley Hall, near Congleton, Cheshire,

Oct. 1. 1834.

ART. II. *Hints on the Utility of Mensuration to Gardeners.*

By Mr. WILLIAM TAYLOR.

A KNOWLEDGE of mensuration is unquestionably as requisite to gardeners, in not a few situations, as the knowledge of the art of forcing is to them in others. It is, therefore, the duty, as well as the interest, of the young gardener to qualify himself for filling a situation of the former kind, to which there is attached as much responsibility, and, in consequence, as much respectability, as there is to the culture of plants in an artificial climate. The latter, however, being the more refined occupation, is, on that account, more the object of a young man's ambition; and, while pursuing it, he is too apt to neglect other things which, at the time, appear to him of little consequence.

Every gardener who considers his attainments superior to those of a mere labourer, ought to be capable of measuring all the superficies and solids usually measured, and of performing as much of land-surveying as will enable him to give a sketch, or a plan, to a scale, of any part, or the whole, of the grounds under his charge. But, before he can do this, he must be well versed in the elementary rules of arithmetic, such as vulgar and decimal fractions, duodecimals, the square and cube roots, geometry, and plane trigonometry. There are now so many excellent treatises on these sciences, that it is not for me to say which are the best. Morrison's *Arithmetic*, Ingram's *Mensuration* (now Ingram's *Mathematics*), Hutton's *Mathematics*, and Crocker's *Elements of Land-Surveying* are the best which I have seen for self-instruction. Hutton has tables of logarithms; Ingram is concise and comprehensive, particularly to those who understand algebra; though, for my own part, I would almost as soon see the A'phis lanigera on an apple tree, as questions on mensuration exemplified by algebra. These or any other works on the subject, with a case of mathematical instruments, may be, at times, obtained second-hand at a reasonable price; and, as those to whom these remarks are chiefly addressed can ill afford to pay much for books, they should watch for such opportunities, and should very rarely purchase new books, unless they are

such as cannot be waited for. Those, however, who are desirous of instruction, will always try to provide the articles necessary for the purpose.

Winter is the best time for studying figures. The days, at this season, are short, and the body is, consequently, less liable to be so much fatigued by manual labour as to unfit the mind for study; besides which, the gardener's cares, at this period of the year, are generally fewer than at any other. At this season, then, the young gardener's indoor studies should be chiefly directed to this useful, and, at the same time, amusing, science; and they should be continued until the practical and really valuable questions of each rule can be wrought with facility. Then these rules should be practically applied to measuring, taking first anything easy, either solid or superficial; else, when a person begins to practise in reality, he will appear awkward, and, what is worse, may commit gross mistakes. Witness the acts of those who have been at school for years learning mensuration, but who, previously to their beginning to practise, never saw a field measured, nor a chain for measuring one. A week's practical experience is worth a month's theoretical study. Oral and ocular demonstrations are the life of this as well as of many other things.

When a field or piece of land which has irregular boundaries is to be measured, and where offsets are required, much depends on these being at right angles with their base lines; and the same of perpendiculars. Trust not to the eye, but use a cross-staff. There are several modes of calculating offsets: that which consists in considering them as triangles and trapezoids is the best; and all calculations of land should be made in decimals.

The measuring of round trees is a simple process by the common method of a fourth of the mean girth as the side of the square [whose contents are found to be adequate to those of the tree]: but, simple as it is, some cannot, or rather will not be at the pains to learn it; and, of course, must always use a book. Certainly foresters ought to be able to measure a tree by several rules (the one to prove the other); by the sliding rule, and by considering the tree as a cylinder. A round tapering tree, measured in sections, say of three 12 ft. cuts, makes the amount of the contents larger than measuring it by girthing it in the middle does. Again, twice the length and one fifth of the girth are data which will give the true contents of a tree; and calculating by these produces almost the same result as reckoning from the dimensions obtained by measuring the tree as a cylinder. Square logs, the sides of which are unequal, should not be measured by girthing them, because the results obtained by this mode are incorrect.

The square root is best for ascertaining the length of rafters, &c. Trigonometry is useful for determining the heights of trees. This last object is easily effected with a quadrant. To prove the correctness of this mode, you may take the height of a tree while it is being felled; and if the ground is nearly level, and your calculation correct, you may stand at such a distance from the root of the tree as that it may fall exactly at your feet. A cube or block of any kind, 3 ft. in length, as much in breadth, and the same in thickness, is well known to contain twenty-seven cubic feet; but one of half the dimensions, that is, 18 in. on the side of the cube, contains only 3 ft. 4 in. and 6 parts.

While acts of measurement are fresh in the memory, figures of superficies and solids should be drawn, to any convenient scale, in a book. Let the objects be such as gardens, walls, square and irregularly bounded fields, circles and ovals, plantations, and sheets of water, &c.; trees, logs, blocks of stone, cones, excavations of ditches, sunk dikes, &c.; embankments and dunghills. These delineations should be marked with dotted lines where the dimensions are taken; and these noted in figures. The computations by the different rules should be given at length under each representation. Transverse sections of ditches and embankments should be shown; together with the nature of the soil, and the expense of cutting the one and erecting the other per cubic yard. Such a book will be found useful, especially when anything about to be measured has escaped the memory.

Thainston, Nov. 1833.

ART. III. *On the Influence exercised by the Employers of Artists on Art.* By CALYCANTHUS.

IN some of the best modern specimens of the fine arts, whether painting, sculpture, architecture, or landscape-gardening, we meet with incongruities and blemishes, which surprise us the more from the general excellence of the performance; and make the common observer wonder that minds which could soar so high should fall into errors which are too striking for even a very inferior capacity to overlook. I believe I may say, with truth, that, in most cases of this description, it is by no means just to blame the artist. A person capable of attaining eminence in art must be too deeply impressed with a sense of the general fitness of things, voluntarily to commit such violations of propriety as are sometimes apparent in works which, in most respects, it is impossible to blame, and would be superfluous to praise. If the fault be not with the artist, it will naturally be

asked, who, then, is to blame? I answer, that, in three cases out of four, it is the employer; who, either knowing but little of the general principles which govern every branch of art, or failing to apply them to practice, invents and suggests alterations and finishing touches of his own, which are sufficient to distract any artist possessing a proper feeling of what is due to his art and to himself. I have read a story of a Turkish turban being placed on the head of a marble Naiad of the stream; and really I do not think it an impossibility. An instance of injurious interference with the peculiar province of the artist occurs in the case to which you have been pleased, in so flattering a manner, to direct my attention. (X. 453.) It would, indeed, be a fortunate circumstance for many an artist suffering in reputation from faults which are not his own, if an impartial and influential public writer, like yourself, would lay the whole truth, in a proper point of view, before the world. We must not, indeed, forget that, in this, as in all other questions, there are two sides to be considered. The patron or employer, who liberally rewards the artist, certainly has a right to expect attention to his wishes; but he should bear in mind that present character and future fame are, or ought to be, as dear to the artist as the pittance necessary to his support; in other words, that what he receives for his works is only a species of liferent derived from talents which belong to his country, to his contemporaries at large, and to posterity; and which it is ungenerous to compel him to disgrace.

Of the fine arts in general, and of landscape-gardening in particular, there are many amateurs, whose minds are open to conviction, and inclined to truth; but whose powers of observation are not sufficient to enable them to discover what is right and appropriate to a particular case, until it is pointed out to them. Under such circumstances, it is highly necessary that the practical artist should be capable of explaining, in conversation or in writing, the nature of those effects which he proposes to produce; and he cannot do this well without a considerable degree of literary knowledge. On this point, you have already given an excellent hint. (X. 455.)

In addition to facility and correctness of expression, it is particularly advisable that an artist, in whatever department he may be, should possess a well-grounded and perfect control over his own temper and feelings. By this self-command, united with suavity of manners and firmness, he may often save his employer from falling into absurdities, and his own works from mutilation. We very well know that an opinion, when stated with gentleness and in a pleasing manner, does not appear the same as when arbitrarily advanced, and thrust upon us, as it

were, by force. It is very difficult indeed to withstand truth when it is supported by a mild and gentlemanly address. Prejudice almost always yields to it, and conceited ignorance retires abashed from the contest.

Brighton, Oct. 7. 1834.

ART. IV. *On the Improvement of the Gardens attached to Farm-Houses.* By Mr. J. HISLOP.

It has often excited my wonder, that gentlemen who are land proprietors do not take notice of the neglected and slovenly condition of the gardens attached to their farm-houses, and do not use their influence with their tenants to induce them to pay more attention to their culture and keeping. There are horticultural societies established and establishing everywhere, that hold out inducements to improvement of various kinds, to all classes, from the peer to the peasant, in respect to gardening: but nothing seems to have yet made any salutary impression on, if, indeed, any intelligence of this kind has ever reached, the minds of the great mass of the British farmers. A laudable degree of attention is now given to induce cottagers to attend to the culture of their gardens; many of these cottagers are employed by the farmers, and ought to receive encouragement from them; but with what consistency can a farmer say an encouraging word to his labourer, while, in the management (or rather mismanagement) of his own garden, he sets such a disgraceful and slovenly example?

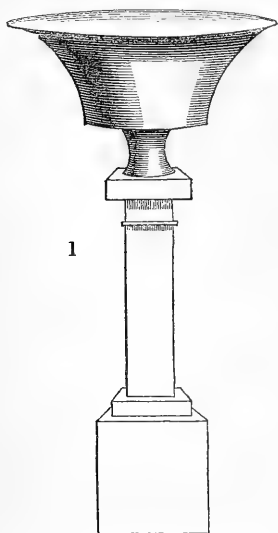
Although agriculture and horticulture may be considered as kindred pursuits, yet, strange to say, there is hardly any class of the British community to be found more utterly ignorant and destitute of taste, in respect to gardening, than the great majority of our farmers; and to so absurd a pitch is this carried, that many of them will even make such ignorance the subject of a sort of clownish boast, as if their own gardens were a concern far below their notice. It sometimes happens that the good lady of the farm-house, or her daughter, or both, contract some taste for gardening and the culture of flowers (it would be strange if they escaped it entirely). The ill-assorted, discouraged, and often abortive attempts they make to introduce something like taste or ornament (however laudable the motive), are often more calculated to excite commiseration than any other feeling, and an earnest desire to see it otherwise with them. What, then, is to be done? Should horticultural societies offer premiums of any kind to farmers specially, to induce them to lay aside their clownish contempt for their gardens, and

to make them strive to improve them; or should landlords make the care of the garden an article in the leases and agreements of those who farm their estates? what say you, or what say your intelligent contributors, as to devising a remedy? There is no doubt of the fact, that farm-house gardening is generally disgraceful, with comparatively few exceptions, from the Land's End to John o' Groat's; and that it is very far from being abreast with "the spirit of the age."

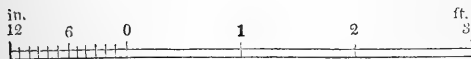
Ashstead Park, Nov. 17. 1834.

ART. V. *Descriptive Notice of some of the Rustic Flower Baskets in the Grounds at Stoke Place.* By Mr. ANDREW PATRICK, Gardener there.

ACCORDING to promise, I have sent you sketches of some of the baskets (*figs. 1, 2, 3.*) you so much admired when you

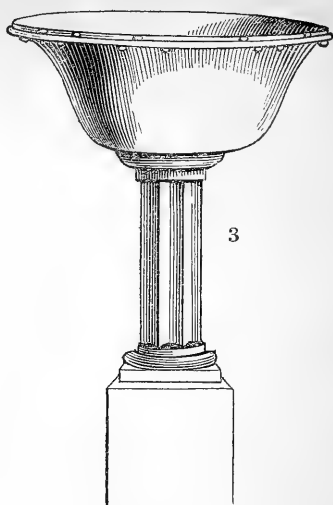
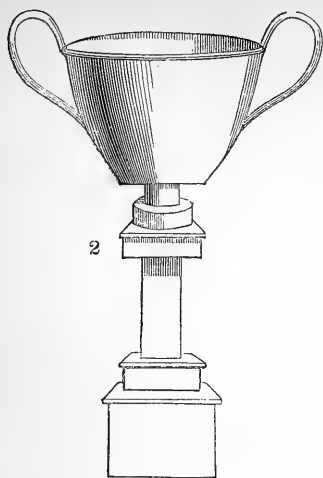


were at Stoke. They are all made of wood, and covered with larch bark. The basket is screwed on an iron pivot, for the convenience of being taken off, and put under cover during winter. Those who have plenty of room, if they think it necessary, may have these baskets filled, and covered with flowers in the conservatory or green-house, before they are put out on the lawn in spring. *Figs. 2. and 3.* are to the same scale as *fig. 1.*



*Stoke Place Gardens,
Jan. 1834.*

THE architectural forms of the bases and supporting shafts to these baskets are in incomparably better taste than the rustic anomalous forms, composed of roots and crooked branches, which some adopt; for this reason, that the object produced is,

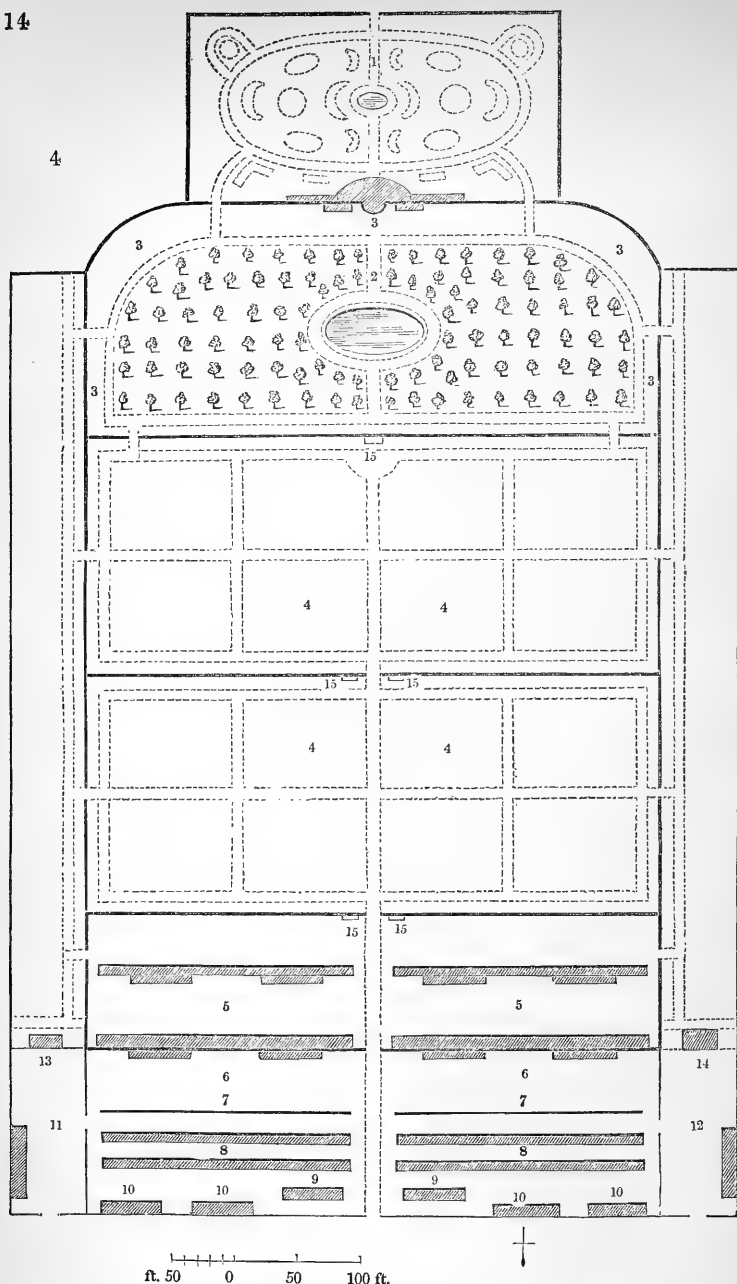


in the one case, a piece of mimicry or natural caricature, while, in the other, it is a harmonious combination of artificial forms.
— *Cond.*

ART. VI. *A Series of Designs for laying out Kitchen-Gardens.* By Mr. T. RUTGER. Design 7., *Containing about Four Acres within the Walls, One Acre and Three Quarters in the Slips, One Acre of Flower-Garden, and Two Acres of Fruit-Garden and Orchard; in all, Eight Acres and Three Quarters.*

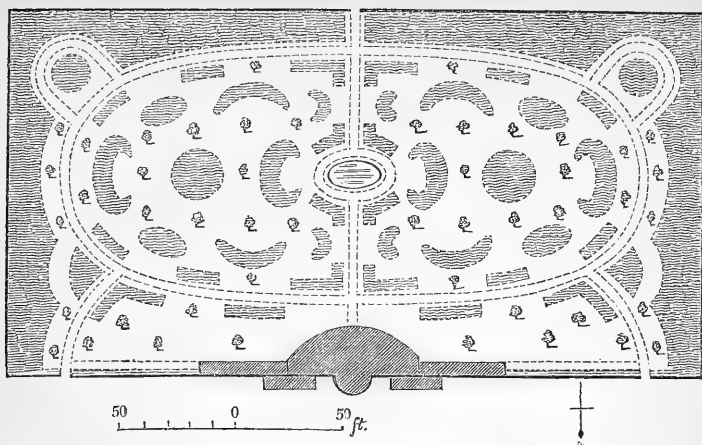
THE plan annexed (*fig. 4.*) presents a flower-garden at the entrance, with a conservatory and green-houses, and a small pond in the centre. From the flower-garden you enter at two points into the fruit-garden, or orchard, which has a pond in the centre for store fish. More room for small fruit may be obtained, if wanted, by forming a fruit border round the garden inside the walk. The culinary department within the walls comprises about four acres, and the slips about an acre and three quarters more. The flower-garden contains rather more than an acre, and the fruit-garden and orchard about two acres. Both the flower-garden and fruit-garden may be dispensed with, if not wanted; and the garden may still be made complete, by continuing the slips round at the south end; and more entrances can be had, if wanted, through the side slips, at the most convenient points. The ranges of forcing-houses are left for arrangement as in *fig. 95. X. 538.*

I have added a working-plan for the flower-garden (*fig. 5.*);



- 1, Flower-garden. 2, Fruit-garden and orchard, with pond for store fish. 3, Small fruit departments. 4, Culinary departments. 5, Forcing department. 6, Frame ground. 7, Dwarf walls for training young fruit trees, &c. 8, Ranges for framing, cucumber ridge, &c. 9, Pine and melon pits. 10, Mushroom sheds, and for sundry purposes. 11, Compost ground, with open shed for compost, &c. 12, Yard for turning and mixing dung, with open shed. 13, Gardener's house and yard. 14, Fruit and onion rooms, seed-room, and lodging-room over. 15, Water tanks.

5



the back border of which, as far as the clumps on each side, is intended for American plants; the side borders for choice shrubs; and what is left of the walls, at each end of the green-houses, for choice creepers.

Shortgrove, Essex, 1834.

ART. VII. *On the Necessity of adjusting the Tops of transplanted Forest Trees to their Roots.* By Mr. JOHN HOWDEN.

FROM experience I can confirm the doctrine of Mr. Rutger (X. 539.), that, in transplanting trees, the top should be mutilated in proportion to the damages sustained by the roots. I have been in the practice of transplanting large trees during the whole of the present century, and this last spring I transplanted about fifty from 20 ft. to 30 ft. high, without losing a single tree. As for removing large shrubs, I do not remember of ever losing one of them. Last year I dug up an old bay tree (*Laurus nobilis*), seventy years old, and without any care laid the roots, when divided, in by the heels, and have now twenty fine thriving young plants, exclusive of the old stump, which has become a large bush. I also removed a yew tree from the avenue of Hale's Hall, near Cheadle, which is said to have been planted by the great Judge Hale: in doing so, I was too sanguine, and preserving too much both of the head and roots, it broke our machinery, broke the toll-gates, and broke itself very much; it, however, lives, and is doing well. I also removed a lime tree, with a trunk 2 ft. in diameter, but this was many years ago, and it has now formed a most beautiful top. Last year I cut down some fine laurels, of twenty years' growth,

to 4 ft. : the stumps were afterwards rooted up, and were thrown carelessly out of the shrubbery. I got them planted in the woods, and they are now fine shrubs. I also, last spring, threw some old fruit trees out of our orchard; they were twenty years old, the roots had been cut off by a mattock, and the tops by the axe or hedgebill: they lay thus in the timber-yard for a week or more. At length I got a friend to beg a few of the best of them, and, under my superintendence they now form a beautiful orchard, my friend having had some scores of apples off them this very autumn.

I might enumerate many such instances, where pruning has saved the life and invigorated the trees, but shall only mention one more. A stunted oak tree had disgraced the lawn at Heath House from time out of mind. It was about 12 ft. high, and about 20 ft. broad, resembling a magnified gooseberry bush. Last spring, every limb and bough was cut off from it, and it has formed this summer a new top of shoots 2 ft. long, though it had never before made a shoot of above two inches long. These are facts; and I have served thousands of younger trees in a similar manner: that is, when they became stunted or hide-bound, I have cut them off close by the ground, and have made good trees. The whole of the queries of Mr. Rutger may be answered in a few words, thus:— I take a twig from an apple tree 2 ft. in length, and he takes another of the same dimensions. Mr. Rutger grafts his twig, without mutilation, on a crab stock; and, of course, it dies: I cut my twig into twelve pieces, and graft them on twelve crab stocks, and they become twelve apple trees. A man who knows how to bud, and graft, and strike cuttings of all kinds of trees, can never be at a loss in removing a rooted tree; the only secret is, in using a sharp knife, and protecting the wounds, and perhaps *shading* the newly planted tree. Abundance of water should be given after planting, and, should March winds be very dry, a barrow-load of cow-dung should be spread round each tree, and as much water poured on it as will make it quite a liquid, to fill every crack, and form, as it were, a scab over the whole. But I have done planting at Heath House now; the place is completed, and my services will soon be at the service of the public, unless some individual should monopolise them.

I have been here for twenty-one years. I have never been allowed so much as one journeyman gardener to assist me; my foremen have all been made out of common labourers. I have never had either a Scotchman or an Irishman employed on the estate. I hope you will let me know if you should hear of any situation likely to do me good, either at home or abroad; I should like to be busy somewhere.

Heath House, Nov. 21. 1834.

ART. VIII. *Dimensions of certain Trees in Raywood, at Castle Howard, in Yorkshire; taken by Mr. John Henderson, Forester there. Communicated by JAMES LOCH, Esq. M.P.*

THAT part of this wood which is enclosed, with the parterre and pleasure-grounds, comprises about fifty-six acres; and that part outside the wall, forming part of the park, may comprise about five acres more.

The soil, in that part of the wood outside the wall where some of the largest and finest oaks are growing, as well as about the like quantity inside the wall skirting the bottom of the rising ground on the north and north-east side of the wood, is a strong loam, incumbent on a clayey stratum, in some places stiff and retentive, in others rather porous. The ground rises very gradually (unless in one place on the north side, which is rather steep) to a considerable elevation; and the soil, from a deep fine loam, becomes more and more light, and the subsoil more porous, until it becomes a fine light loam, perfectly dry, and the subsoil rather of a sandy nature.

The following statement shows the number of trees, and the measurement, as far as can be computed, of the various sorts now growing in this wood, taken in April and May, 1834: —

	Species of tree.	Number.	Measurement in solid feet.	Average measurement per tree.
1.	Oaks { large - - - -	751	126172	168
	{ small - - - -	176	1164	6½
2.	Beech { large - - - -	1240	135472	109
	{ small - - - -	401	2439	6
3.	Silver fir - - - -	56	13719	245
4.	Scotch pine - - - -	5	860	172
5.	Aspen - - - -	17	1987	117
6.	Elm - - - -	9	883	98
7.	American spruce - - - -	14	1120	80
8.	Common spruce - - - -	22	1560	70¾
9.	Larch - - - -	6	403	67
10.	Weymouth pine - - - -	3	145	48
11.	Lime { large - - - -	116	8885	76½
	{ small - - - -	40	174	4
12.	Spanish chestnut - - - -	14	581	41½
13.	Horsechestnut - - - -	11	474	33
14.	Sycamore { large - - - -	154	3612	23¼
	{ small - - - -	111	654	5¾
15.	Ash { large - - - -	146	5460	37¼
	{ small - - - -	95	568	6
16.	Cherry { large - - - -	54	1654	30½
	{ small - - - -	66	441	6½
17.	Hornbeam { large - - - -	22	640	29
	{ small - - - -	117	763	6¾
	Total trees -	3646	309830	

A few of the largest of each of five sorts have been, where practicable, measured; and, where not practicable, have been very carefully examined, and their contents estimated. The following is the result:—

OAK.

Girth, at 5 ft. from the ground.	Length of bole.	Length of limbs.	Length of tops.	Entire height of the tree.	Measure-ment in solid feet.	Diameter of top.
20 ft. 6 in.	33 ft.	35 ft.	14 ft.	82 ft.	960 ft.	90 N. B. The tops of the oaks are not large.
19 6	30	40	10	80	806	
17 9	30	35	12	77	650	
17 9	35	40	10	85	722	
16	50	20	10	80	750	
16	12	25	15	52	552	
15 9	50	25	15	90	742	
15	55	20	10	85	720	
15	45	25	20	90	740	
15	40	20	10	80	675	

BEECH.

Among the great number of fine beeches, I have selected ten; the average estimated measurement of which is 839 ft. each, viz.:—

14 2	45	20	20	85	900	94
17 10	40	20	15	80	964	105
13 11	38	25	20	83	740	97
14 2	70	25	15	110	940	96
15 0	50	20	20	90	848	70
16 3	40	30	20	90	760	91
17 0	35	40	20	95	808	86
15 0	60	20	15	95	900	90
13 9	50	30	20	100	810	70
13 0	45	35	15	95	725	75

SILVER FIR.

From among the comparatively small number of this species of tree growing in this wood, I have selected five; which average 576 ft. each, viz.:—

12 6	120	—	10	130	750	
11 8	100	—	10	110	564	
10 11	120	—	10	130	548	
10 0	100	10	10	120	400	
10 7	100	10	10	120	540	

ASPEN.

Among the aspen trees are two that measure respectively 780 ft. and 560 ft., viz.:—

12 4	80	20	10	110	780	
11 3	95	30	5	130	560	

SCOTCH PINE.

Three of the five Scotch pines measure respectively 324 ft., 200 ft., and 210 ft., viz. : —

8 9	100	10	10	120	324	
7 9	85	10	5	100	200	
7 6	90	10	5	105	210	

I may add the following description of an ash tree standing near the garden door, the estimated measurement of which is 920 ft., viz. : —

				Girth.	Length.	Feet.
The bole	-	-	-	20 ft. 9 in.	7 ft.	187
First limb	-	-	-	6 0	50	112
Second limb	-	-	-	6 0	77	173
Third limb	-	-	-	5 0	55	105
Fourth limb	-	-	-	6 0	55	97
Fifth limb	-	-	-	5 2	40	66
Sixth limb	-	-	-	4 11	40	60
The smaller limbs and tops computed to measure						120
Total feet						920

Castle Howard, Nov. 7. 1834.

ART. IX. Notice of a successful Mode of bringing Tropical Plants into a Flowering State. By E. B.

HAVING been frequently disappointed by the length of time necessary to bring plants raised from tropical seeds into a flowering state, particularly tree-like shrubs and shrubby climbers, I was induced to try ringing and various others of the usual expedients for accelerating flowering, with very little success. At length I adopted the following treatment, which terminated so successfully, in most instances, that some of the plants on which I tried it have never been flowered by any other individual within my knowledge.

Some climbers and free-growing tree-like shrubs were selected for experiment, which, after having been grown in the stove for years, showed no symptoms of producing blossoms. The climbers were planted in boxes in the front of the pit under the rafters, for training; and the shrubs were shifted into large-sized pots. Every plant was reduced to a single stem by cutting off clean all side branches, thus forcing all the nourishment from the roots into one channel. They soon began to grow vigorously; and all lateral buds were rubbed off as soon as they

appeared, till the climbers reached the length of the rafters, and the shrubs to the glass. A few buds were then left near the top of the plants, for cuttings, which, so soon as of sufficient length, were taken, along with the main top, for that purpose. When struck, the top cutting was selected, or, if that failed, one of the strongest of the others, and this cutting was placed where the parent plant, which was now thrown away, had stood. These were again kept to one stem, by rubbing off all lateral buds as they appeared, till they reached the top of the house; and cuttings were taken from them again to undergo the same treatment as before, till they produced flowers. So soon as the flower-buds appeared, the lateral buds were allowed to remain; and they produced flowers also, upon most species. After having brought any species into flower, no farther particular management was necessary; as plants struck from cuttings, taken from the flowering branches, generally flowered at a small size, and under ordinary management; and the original plant was taken out to make room for another species that had not flowered.

If the above treatment were persevered in by different individuals, many plants might be brought into flower, even if they do not flower in their native country till they attain a great height. This system is founded on the principle of increasing the length or height of the plants; and this may be practically accomplished to any extent by repeatedly taking cuttings from the points of their shoots. The only difficulty will be in striking the cuttings; but this part of gardening practice is now so well understood by most gardeners, that there is scarcely a plant which cannot be so propagated.

By the mode of treatment above described, *Joliffia africana*, *Clerodendrum macrophyllum* and *emirnense*, *Dalbergia Barclayana*, *Hibiscus liliiflorus*, *Cineraria discolor*, *Quisqualis indica*, &c.; and a tuberous-rooted herbaceous plant, the omime plant of Madagascar (*Plectranthus ternatus*) which rarely flowers, even in its native country, were first brought into a flowering state.

Birmingham, Sept. 3. 1834.

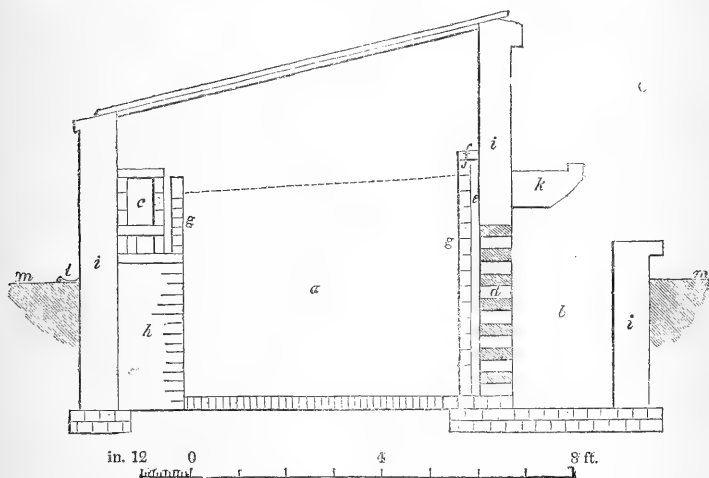
ART. X. *On Mr. Dowding's Manner of cultivating the Queen Pine-Apple for Early Fruit, as a Market Speculation.* By Mr. ALEXANDER FORSYTH.

ACCORDING to promise, I have enclosed a paper on the culture of a complement of queen pines that were grown and fruited here, on speculation, for the market; and which have answered beyond our expectations, owing chiefly to the fineness of the weather. This, however, was not solely the case; for we had a

few queens in our early forcing-pit among the Providences, &c., which, with equal care, but wanting the dung heat, were actually dried up, disfigured, and completely destroyed in a heat of 75° , in which we started our Providences about Christmas. I think it may be useful to detail the culture of the queen pines separately, for the use of market-gardeners, as these fruit, when cut in February and March, brought 16s. a pound; while fruit, equal in quality, ripe in July and August, will hardly bring one third of the price. I should think, if ordinary pine culture pay at all, there must be a good return from such a speculation as this.

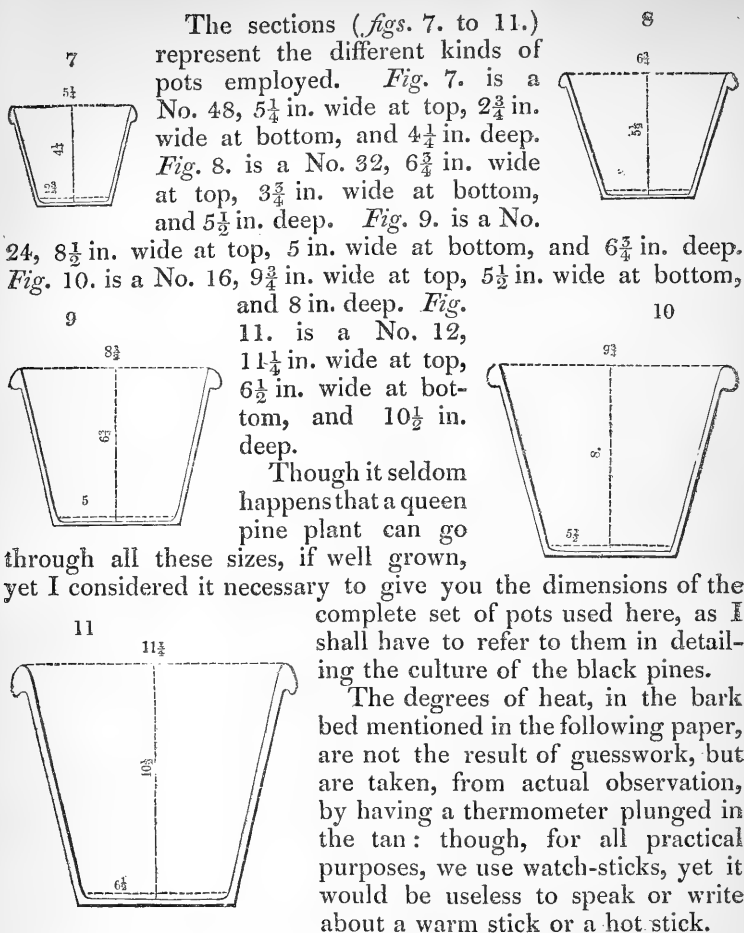
The culture of black pines here, such as Providences, Jamaicas, Enviles, &c., differs widely from that of the queen about to be given, perhaps from the system adopted by other cultivators: but this may, with your permission, form the subject of another paper. It must be observed, that I do not mean to say that we cultivate our queens generally (or rather for the summer crop) in this manner; for this was done as a market speculation.

Before proceeding with the mode of culture, I shall give a section (*fig. 6.*) of the pit in which it was carried on, and of the pots in which the pines were grown.



The above section represents: —

- | | |
|--|---------------------------------------|
| a, The bark bed. | g g, Walls of bark bed. |
| b, Pit for linings. | h, Rubblework. |
| c, Fire flue along the front and both ends. | i i i, Brick walls, coped with stone. |
| d, Open brickwork. | k, Stone bracket, supporting a plank. |
| e, Open cavity. | l, Gutter. |
| f, Tile cover of open cavity, with plug holes. | m m, Ground level. |



Culture of a Complement of Queen Pines for early Fruit.—The suckers being from 12 in. to 20 in. in length, and proportionately strong, were taken off the stools in the beginning of August; and, having lain exposed, in the pine stove, in that state about a week, were dressed, and potted in No. 32-sized pots, in poor light soil; and plunged two thirds the depth of their pots in a bark bed, in which a thermometer, inserted that depth, stood at 80° . Till the roots had reached the sides of the pots, we did not water the soil; but syringed the plants, overhead, at shutting up in the evenings of warm days, about twice a week: as the plants increased, they were watered at their roots as they appeared to be in want of that element. The temperature of the house, by day, was not allowed to exceed 80° ; and, till about the middle

of September, would generally be found about 65° , a little before sunrise: using no artificial heat (besides the bark bed) as long as the natural temperature of the atmosphere exceeded 55° ; at which temperature (*viz.* 55°) we kept the house by night, during the winter months, till the third week in March, when we shook the plants out, and shortened their roots about one half; and repotted them in the same-sized pots, prepared as follows:—The pots, if not new (new ones being preferable), being well cleaned, an oyster-shell, about the size of a penny, is placed over the hole; around which, broken bones (such materials being best), or potsherds, broken to about the size of kidney-beans, and sifted, to exclude the dusty particles, are laid about half an inch deep; over which is placed a layer, about a quarter of an inch deep, of the thready part of half-decayed loamy turf; and the remaining space is filled up with the following compost: turfy loam, chopped to the size of walnuts, bruising it as little as possible, 6 parts; night soil, 1 part; leaf mould, 1 part; and silver sand, 1 part. The plants, being potted in this compost, were plunged in a bark bed, in a dung-heated pit, two thirds of the depth of their pots (at which depth, a thermometer inserted stood at 90°); shading them from the more powerful rays of the sun, and keeping them as close as possible, yet not allowing the temperature to exceed 90° : the minimum, by night, being generally from 65° to 70° . In the course of about fourteen days, we exposed the plants to the full sun; from which time they required to be plentifully supplied with water, and the greatest attention to be paid to the watch-sticks (sticks stuck in the bark, to be occasionally taken out, and felt, to ascertain the heat), lest the roots, on reaching the sides of the pots, should be burnt. At this stage we gave air at 80° , and allowed the temperature to rise to 95° . As the season advanced, we sprinkled the plants overhead more frequently: in April, about once a week; in May, about once in four days; and, in the hottest weather, every other evening. In June we turned them out of the pots, and leaving their balls entire. We then potted the largest of them in No. 12-sized pots, leaving the surface of the soil $1\frac{1}{2}$ in. below the top of the pot; the balls of the rest we partially reduced, and potted in No. 24-sized pots. The bark bed was then forked over, and made good by sifting out the rotten bark from the top and sides, and adding fresh at the bottom. After the bed had been well trodden and levelled, we replunged the plants in it about two thirds the depth of their pots; keeping them close, and shading them, &c., as before. The temperature, at sunrise, was now about 75° ; the maximum, by day, was 100° , giving air, as before, at 80° . The second week in August, we shifted the plants in No. 24-sized pots into No. 12s; topsoiling, at the same time, those already in 12s. The

pots of the latter, at this time, were full of roots; and their lower leaves confining young roots in their sockets, we displaced them; and replunged the pot, about 3 in. deep, in a heat which, at that depth, was 100° : plunging and treating the plants newly potted as we did those potted in June. The plants, being now finally stationed in the fruiting pit above described (*fig. 6.*), on a bark bed $4\frac{1}{2}$ ft. deep, with dung and fire heat at command, showed fruit generally on the 1st of September. The maximum by day, with plenty of air, was now 110° ; and, at sunrise, about 80° . About Sept. 20., several of the plants were in flower. As the season declined, we lowered the temperature; our standard for the winter being 60° at sunrise, and the maximum by day 90° . In cloudy damp weather, we fired, by day, to 65° or 70° , for the purpose of giving air to carry off the damp. When a dry sunny day occurred, we generally seized the opportunity to sprinkle the plants overhead with clean water, in a tepid state, in the early part of the day, for the purpose of dislodging the mouldiness that settled on the fruit from the closeness and humidity of the atmosphere. As the fruit began to colour, towards February, more fire heat and more air were given. The maximum by day, with sun heat and a flue seldom cold, was now 100° ; and, at sunrise, 60° .

Under this mode of treatment, three specimens were grown, which were exhibited, at the gardens of the London Horticultural Society, on May 10. 1834, along with three dishes of grapes, for which their gold medal was awarded to Mr. Dowding.

Oak Hill Gardens, East Barnet, Oct. 17. 1834.

ART. XI. *Short Communication.*

THE Purple Laburnum. — It is nearly two years since you obligingly gave me a cutting of the purple laburnum, from which I have propagated rather extensively: this season I had the pleasure of seeing it bloom for the first time. From its glossy leaves, and peculiar habit, I have always suspected it to be a hybrid between *C. purpureus*, and *C. Laburnum*; this is now fully confirmed by the colour and appearance of the flower, which is a reddish purple, slightly tinged with buff, with graceful pendent spikes 8 in. or more long. In this I have been agreeably disappointed, as I anticipated that it would partake of the habit of *Cytisus purpureus* in having short sessile-like spikes of flowers. One striking peculiarity is its robust and luxuriant habit of growth. I have seen it make straight, *very upright* shoots, 6 ft. to 9 ft. long, in one season: this, in habit and colour of flower is quite a new feature in laburnums, adding a handsome spiral tree to ornament our lawns. — *T. Rivers, jun. Saxbridge-worth, May 23. 1834.*

ART. XII. *Floricultural and Botanical Notices of newly introduced Plants, and of Plants of Interest previously in our Gardens, supplementary to the latest Editions of the "Encyclopædia of Plants," and of the "Hortus Britannicus."*

Curtis's Botanical Magazine; in monthly numbers, each containing eight Plates; 3s. 6d. coloured, 3s. plain. Edited by Dr. Hooker, King's Professor of Botany in the University of Glasgow.

Edwards's Botanical Register; in monthly numbers, each containing eight plates; 4s. coloured, 3s. plain. Edited by Dr. Lindley, Professor of Botany in the London University.

Sweet's British Flower-Garden; in monthly numbers, each containing four plates; 3s. coloured, 2s. 3d. plain. Edited by David Don, Esq., Librarian to the Linnæan Society.

DICOTYLEDONOUS PLANTS: POLYPETALOUS.

XLVI. *Cactæa*.

1474. *OPUNTIA Tourn.*
12609 *monacantha Haw.* singly spined \square gr 1? my Y S. Amer. 1816. C s.l Bot. reg. 1726

Figured from a fine plant supplied by the Countess of Guildford. (*Bot. Reg.*, Dec.)

LXXVII. *Leguminosæ* § *Loteæ*.

1941a *LA'LAGE Lindley.* (A laughing witty dame, described by the Latin poet Horace: the plant, when displaying its flowers, is gay and lively-looking.) 15. 6. Sp. 1.—
ornata *Lindl.* gay-flowering \square or 2? ap Y.Bd.P. S.W. New Holl. 1830. C p Bot.reg.1722

A very ornamental species. The plant is a shrub, and seems to be, by the figure, not a large one, and erect in its habit of growth. The leaves are ovate, on short footstalks, their expanded portion somewhat more than $1\frac{1}{2}$ in. long by 1 in. broad; they "are of a rich deep green: and the colour of the flowers is a pleasing mixture of yellow, orange, purple, and crimson." The flowers are numerous. The plant has been raised by Mr. Knight, Chelsea, from seeds collected by Mr. Baxter. (*Bot. Reg.*, Dec.)

1963. *GENISTA*.
+11502 *amxántica Ten.* Amsanto \square or 4 jn Y Naples 1818. L s.l Sw. fl. gar. 2. s. 266

"Discovered, by Professor Gussone, on hills in the valley of Amsanto, not far from Frigento, in the kingdom of Naples; a spot famous for its mineral springs, and for the unhealthiness of its air, arising from sulphureous exhalations." *G. amxántica* may, therefore, thrive in spots in our gardens and pleasure-grounds in which some other species would not. Mr. D. Don has stated that, "from its trailing habit, and copious clusters of golden flowers, it is well suited to ornament rockwork, where it will be found to thrive luxuriantly." (*Brit. Flow.-Gard.*, Dec.)

DICOTYLEDONOUS PLANTS: MONOPETALOUS.

CLXXXVI. *Compósitæ*.

2412. *GAILLARDIA*.
picta D. Don painted-rayed Δ or 2 au Carmine and Y [Sw. fl. gar. 2. s. 267
Gaillardia bicolor var. *Drummondii* Hooker in *Bot. Mag.* No. 3363. Louisiana 1833. D it

A very pretty species (or variety, as Dr. Hooker has deemed

it). The ray of the head of flowers is shorter than in *G. bicolor*, and of a deep blood-colour through nearly the whole of its length: the tips of them are yellow. Its foliage is similar to that of *G. bicolor* and *G. aristata*. *G. picta* has been raised, in various gardens, from seeds gathered at Rio Brazos, in Texas, by Mr. Drummond. The species is living in the Glasgow Botanic Garden; in the garden of Mr. Neill, Canonmills, near Edinburgh; and in Miller's Nursery at Bristol. (*Brit. Flow.-Gard.*, Dec.; *Bot. Reg.*, Dec.)

The stouter of the roots of *Gaillardia bicolor* abound in buds, usually in an undeveloped state: these, by detaching the roots from the parent plant, planting them separately in soil in pots, and stimulating them gently in heat, may be excited into shoots to the formation of new plants. This mode of propagation is, we presume, equally applicable to all the kinds of *Gaillardia*: *G. bicolor*, *aristata*, *picta*, and *Richardsoni*. — *J. D.*

2263. *EUPATORIUM*. (Kunth's Section 4.)

glandulosum *H. & Kth.* glandulose-haired $\frac{3}{4}$ Δ or $3\frac{1}{2}$ o.n W Mexico 1826? C lt—Bot.reg.1723

A perennial herbaceous species. Planted, in the London Horticultural Society's Garden, in "the soil of a turf pit which is screened from wet, and the most severe of the winter's cold, it has grown so as to form a thick bush, 3 ft. or 4 ft. high, which flowers in October and November." The flowers are white, and numerous produced: their colour, number, and lateness render the species a desirable one for the decoration of the hardy flower-garden late in autumn, in variation of the yellow flowers, then the more numerous. The species was discovered in Mexico: hence it may be, that, in British gardens, its flowers may only be finely produced in warm extended autumns. Plants of it may be readily obtained from cuttings. (*Bot. Reg.*, Dec.)

CC. *Polemoniaceæ*.

498c. *LEPTOSIPHON*.

densiflorus *Benth.* clustered-flwd. \bigcirc el $\frac{3}{4}$ ap.o P California 1833. S p Bot. reg. 1725
2 *corollâ albâ* white.corollaed \bigcirc el $\frac{3}{4}$ ap.o W California 1833. S p Bot. reg. 1725

Does not produce so many flowers as *L. androsæus* does; which, in herbage, it much resembles. Its corolla is three times as large as, and of a less lively colour than, that of *L. androsæus*; and has broader and blunter segments, with a short stoutish tube: the tube in *L. androsæus* is long and slender. Seeds of *L. densiflorus* have hitherto been produced in very small quantity. Plants, from seeds sown in autumn, flower in April and May; from seed sown in spring, in October and November. (*Bot. Reg.*, Dec.)

CCXIII. *Solaneæ*.

3474. *NIEREMBERGIA*.

calycina *Hook.* large-calyced $\frac{3}{4}$ Δ or $\frac{3}{4}$? jl.o W Uruguay River 1834. C lt.r Bot.mag.3371

Of a decumbent branched habit, like *N. gracilis* and *N. fili-*


caulis; but most distinct from these in the following particulars: — Its leaves are larger than those of either, and broadly obovate; the calyx large, bell-shaped, with leafy lobes; corolla with a very slender tube, almost 3 in. long, yellowish, abruptly expanded, at the summit, in a five-lobed, broadly bell-shaped white limb, nearly 1 in. across, its base alone yellow. Raised, in the Glasgow Botanic Garden, from native seeds collected by Mr. Tweedie. Dr. Hooker has intimated that he possesses specimens of additional species of *Nieremburgia*, gathered between Buenos Ayres and Mendoza. (*Bot. Mag.*, Dec.)

489. *PETUNIA*. [Sw. fl. gar. 2. s. 268
Atkinsiana D. Don] Mr. Atkins's clove-scented O or 2 jlo English hybrid 1834? C it

A very showy hybrid raised by Mr. Atkins, nurseryman, Northampton, between *P. nyctaginiflora* and *P. phoenicea*. "In habit, it is much like the former; but the flowers are nearly intermediate between those of the two parents:" in size and shape is meant, we believe, not in colour. "The plant would prove a great ornament in the flower-border, as it blossoms most abundantly; and is as hardy as the *P. nyctaginiflora*. It is readily increased by cuttings. The flowers, especially in the evening, diffuse an agreeable fragrance, resembling that of the clove pink." (*Brit. Flow.-Garden*, Dec.)


MONOCOTYLEDONOUS PLANTS.

CCXXXVII. *Hæmodoraceæ*.

943. *ANIGOZANTHOS*. — (*Anischō*, to elevate, *anthos*, a flower; flowers elevated on a naked stem. — D. Don.)
Manglèsi D. Don Mr. Mangles's  or 3 my G Swan River 1833. D p.1 Sw.fl.gar.2.s.265

The flowers of the species of *Anigozanthos* are of singular structure and unshowy colours. *A. Manglèsi* is, to those who love plants botanically, an interesting species. It has been "raised in the garden at Whitmore Lodge, Berks, the seat of R. Mangles, Esq., from seeds brought from Swan River [colony] by Sir James Stirling, the enterprising governor; by whom they had been presented to Mr. Mangles. . . . A cold frame will protect *A. Manglèsi* well enough in winter." (*British Flower-Gard.*, Dec.)

CCXXXVIII. *Amaryllidææ*.

963a *PYROLIRION* Herbert. FLAME LILY. (*Pyr*, fire, *lirion*; colour of the perianth.) 6. 1. Sp. 1. —
aureum Herb. golden-perianth  or 1 ap Go Peru 1833? O p.1 Bot. reg. 1724
Amaryllis peruviana Poirét, *A. aurea* Fl. Per.

Introduced from Peru by Richard Harrison, Esq., of Liverpool. The flower is solitary and sessile at the tip of the scape: the perianth is funnel-shaped, and about 3 in. long; in wild specimens 4 in. long. The leaves are narrow, rather long, and seem flaccid. The broad-leafed species of *Zephyranthes* will give a pretty correct idea of the general outline of this interesting plant. (*Bot. Reg.*, Dec.)

CCXL. *Orchideæ*.

2530a MYA'NTHUS *Lindley*. (*Myia*, a fly, *anthos*, a flower; "the flowers look, when dried, very much like a fly pressed flat." — *Lindley*.) 20. i. Sp. 1. —
 cérvuus *Lindl.* drooping-inflorescenced ♂ [] or 1½ my [D p.r.w Bot. reg. 1721
 Lu.G.P.spot Rio Janeiro 1832.
 Synonyme: *Catasætum trifidum* *Hooker*, Bot. Mag. No. 3262.

In IX. 622., particulars on this are noted. The species flowered in great beauty, in May, 1834, in the rich collection of tropical *Orchideæ* of the Rev. J. T. Huntley of Kimbolton. The figure in the *Bot. Reg.* is from a beautiful drawing by Miss A. Huntley. "Like all the species with the habit of the *catasætums*, this is very easily cultivated; provided it is rested for some months (by being kept cool and dry when not growing); and is vigorously forced when in full vegetation." (*Bot. Reg.*, Dec.)

ART. XIII. *Arboricultural Notices; or, Notices of new Hardy Trees and Shrubs, deserving of General Cultivation in Useful or Ornamental Plantations.*

WE have very little to introduce under this head at present, though we trust this will not be the case long. The truth is, that there are many foreign trees and shrubs in the nurseries, and a great many in the arboretums of the Horticultural Society, and of Messrs. Loddiges, highly deserving of a place in every pleasure-ground, which are scarcely known at all to the majority of gardeners. We refer, for a proof of this, to the *Catalogue* of the Messrs. Loddiges; and we request the botanical reader to remark how very few of the articles in that catalogue are to be found in our shrubberies. It is much to be regretted that the Horticultural Society have not yet published a catalogue of their collection of trees and shrubs; for though, owing to the number of duplicates, and the number of individuals which have not yet flowered in their collection, such a catalogue must necessarily be imperfect, it would yet do much good by stimulating gentlemen to procure the sorts, and nurserymen to propagate them. It would also induce numbers of persons throughout this country, and in foreign countries, to contribute what they considered new; and though many of these contributions might be merely duplicates, yet this appears the only practicable mode of collecting everything into one focus. By doing this, and by afterwards comparing the whole together, what are distinct species or varieties can alone be ascertained. Experience has shown that but little dependence can be placed on the catalogues either of nurserymen, or even of such botanical works as are not accompanied with scientific descriptions; for it can never be certainly known that the same names are applied to the same things. We can assert, without the slightest hesitation, that there is no other mode of ascertaining the number of species and varieties of hardy

trees and shrubs at present in the country, than by collecting them together, and growing them on one spot. The success of the Horticultural Society, in the case of the hardy fruits, will, we trust, encourage them to pursue the same method with regard to the hardy trees and shrubs, and to persevere in it. Our *Arboretum Britannicum* is intended to cooperate with the Society in this respect; but the collecting together of plants from all parts of this country, and from the temperate regions of all other countries, must mainly depend upon the exertions of the Society itself, and upon the influence of its name.

Among the trees which we would recommend as worthy of introduction everywhere are, the scarlet-flowered horsechestnut, the new scarlet-flowered thorn, the *Cratægus tanacetifolia*, *Arònia*, and odoratissima, remarkable for their large yellow or coral-coloured fruits; the *Sórbus doméstica*, and the *Diospýros virginiana*, both of which have borne fruit freely, on trees only ten years planted, in our garden at Bayswater, this last summer; the *Pýrus vestita*, the noblest tree of the genus, of which there is a fine stock of plants at Messrs. Loddiges's; the *Nýssæ*, all the species of which are beautiful small trees; the *Álnus cordata*, and the cut-leaved alder; the cut-leaved birch; the scarlet oak; the new Lucombe oak (X. 185. 296. and 452.); the new variegated evergreen oak, mentioned X. 524., as introduced by Mr. Veitch; the liquidambar, an old inhabitant of the nurseries, but a tree which ought to be in the margin of every plantation whatever, whether useful or ornamental; the *Pínus Cémbra* and *Sabiniana* the *Ábies Douglàsii*, a rapid-growing tree; the *Ábies Webbiàna*, a kind of giant silver fir; and, in short, all the new species of *Pínus* and *Ábies* that can be got. If our nurserymen were skilful in grafting these genera, in the herbaceous manner practised extensively by the French, and nowhere with more success than in the Fromont Nursery, we should have no want of young plants of all the rare pines and firs; of many of which, there is at present hardly a plant to be got. That such grafted pines and firs will ultimately become large timber trees, is proved by the size which such grafted trees have attained in the arboretum of the Botanic Garden at Metz, as seen by us in 1828, and noticed in our volume for 1829.

It may seem superfluous to recommend the cedar of Lebanon; yet we cannot help reminding planters that this noble tree will, under the same circumstances, grow as rapidly as the common larch. Mr. Sang of Kirkaldy published this many years ago; and it may be proved at Kenwood, Lady Tankerville's at Walton, Claremont, Ascot Park, High Clere, and a number of other places, all mentioned in this Magazine; and is farther confirmed by the Return Papers which have been filled up for us from all parts of the country.

Among the new shrubs we would strongly recommend that beautiful evergreen *Escallònia rubra*; and, where there is a conservatory wall (and we shall show what a world of enjoyment is to be derived from this source in a future Number), we would recommend also *E. montevidénsis*; but we shall have more to say respecting new shrubs in our next Number.

We shall conclude by observing that tree seeds, like those of culinary vegetables, have ripened remarkably well this last summer, both here and in America; and that many sorts generally scarce and dear in the seed shops, are now abundant, and comparatively cheap.

ART. XIV. *Pomological Notices; or, Notices of new Fruits which have been proved, during the past Year, to deserve General Cultivation in British Gardens.*

OUR reliance for information on the subject of this article is principally on Mr. Robert Thompson of the Chiswick Garden, whom the committee of the London Horticultural Society has kindly permitted to supply us with information. The reasons why we depend so much upon him are, his extensive knowledge and experience, his enthusiasm for the subject, and his having all the fruits of Britain continually under his eye. Were we to accept of notices of new fruits, said to be deserving of cultivation, from nurserymen or gardeners in different parts of the country, indiscriminately, and to recommend them as such, we could never be perfectly certain of their merit, relatively to that of all other fruits, when tried in the same soil and in the same climate; nor whether such fruits were not already included in our lists in the new edition of the *Encyclopædia of Gardening*, under some other name. In all cases, therefore, of doubts of this kind, we shall merely recommend trials to be made; and leave the final result to be determined in the gardens of the London Horticultural Society.

For the climate of Scotland, we shall have no hesitation in recommending what has been proved, in the garden of the Caledonian Horticultural Society at Edinburgh, to deserve general cultivation; not only because we have full confidence in the knowledge of Mr. Barnet, and in his ardour for the subject, but because, from his having had the management, for several years, of the fruit department in the Chiswick Garden, he has qualified himself for acting, in matters of this kind, in concert with Mr. Thompson. The committee of the Caledonian Horticultural Society have most kindly granted us permission to apply to Mr. Barnet for information on this subject.

We wish we could refer to a Dublin Horticultural Society's

Garden, and say that we could obtain annual notices of the fruits that have been found deserving of general cultivation or of trial in Ireland; but that pleasure is deferred for the present, though, we hope, to no distant day. The sorts of fruits which have arrived at an eminent degree of perfection, either of flavour or bearing, in any provincial public garden, will always be found the safest to plant in that province. Hence the use of provincial horticultural gardens, as well as central ones.

On application to Mr. Thompson of the Chiswick Garden for materials for the present article, he states that, having so lately (the summer of 1834) arranged the lists of fruits for the new edition of the *Encyclopædia of Gardening*, he has scarcely anything to add to them. "There are," he says, "hardly any ascertained varieties superior to those which these lists include. I may, however, mention a very fine peach:—

"*The Pêche de Sernach* is the name of this fruit; and it was received, by the Horticultural Society, from M. Audibert, nurseryman at Tarascon (département des Bouches du Rhône). It fruited, for the first time, last season; and is a very fine large melting late sort. In the garden of the Society there are many *hundreds* of new sorts of fruit that are now coming into a bearing state; and, among them, some *tens* may probably be found excellent. These the public will have an early opportunity of knowing and procuring, as soon as their merits are ascertained, in consequence of the arrangements you have made with a view to that end. As fruits deserving of trial, I would recommend the following, taken from Kenrick's *New American Orchardist*, published in 1833, and reviewed in *Gard. Mag.*, ix. 354.—*Robt. Thompson. Horticultural Society's Garden, Chiswick, Dec. 2. 1834.*"

APPLES.

"*Benoni*.—An apple of medium size; its colour fine red; flavour good; it ripens the last of July, and is one of the best apples in its season. This fruit originated in Dedham, Massachusetts, and was lately introduced to notice by Mr. E. M. Richards of that place: it is considered a valuable summer fruit." (p. 25.)

"*Early Bough, Bough of Cox*e, *Sweet Bough* of some collections.—The size of this fruit varies from the medium to large; its colour pale yellow; its form oblong; its skin smooth; the eye and the stalk, which is short, are each sunken; the flesh is white, tender, juicy, sweet, and excellent. An excellent dessert apple, and one of the best of its season. It ripens the beginning of August." (p. 26.)

"*St. Lawrence, Corse*.—This apple, it is presumed, is an extraordinary fruit. According to the account of Henry Corse, Esq., who forwarded scions to the Massachusetts Horticultural Society, in April, 1831, it originated in the vicinity of Montreal, and is of accidental origin: the tree bore fruit, for the first time, about a dozen years before. 'A large, beautiful, and excellent fruit; ripens in September; and sells, at Montreal, readily from 50 cents to 60 cents a dozen.'" (p. 28.)

"*Corse's Indian Prince, Corse*.—A seedling originated by H. Corse, Esq., of Montreal. He states that it matured fruit, for the first time, in 1829. It is large and very handsome, and of very peculiar and good flavour." (p. 31.)

"Killam Hill. — This apple has been highly spoken of by the late Hon. Timothy Pickering. It is a large apple; its colour of an almost uniform bright red, interspersed with deeper and fainter stripes of the same colour; its form globular; its stalk and eye sunken in deep cavities; its flesh rich, juicy, a pleasant subacid, and excellent. I received this fruit from Mr. David Towne of Topsfield, near Salem. It is one of the most popular and saleable apples in that market. It ripens in October and November." (p. 36.)

"Hubbardston Nonsuch. — A large apple, a capital fruit; its colour in the shade is yellow; but, on the side next the sun, and, indeed, over most of its surface, it is bright red, interspersed with numerous small irregular stripes of a deep red. Its form globular, a little depressed at its base and summit; its stalk and eye are each sunken; its flesh yellow, juicy, rich, sharply saccharine, and most excellent. It is a great bearer; and, by many, esteemed even preferable to the Baldwin, and very superior to any other fruit known here bearing the name of Nonsuch. A very excellent and celebrated native fruit, and recommended for general cultivation. It ripens in February, and lasts till April. Originated in Hubbardston, Massachusetts." (p. 47.)

"Rawle's Janett, a Virginian. — The form is globular, flattened at the summit and base; the colour red and green; flesh very fragrant, more juicy, and of superior flavour to the Newtown pippin, and keeps equally as well." (p. 59.)

"Striped June Apple, a Virginian. — The fruit is as fragrant as a pine-apple melon. It ripens the last of June and beginning of July." (p. 60.)

PEARS.

"Dearborn's Seedling. — This pear lately originated at Brinley Place, the mansion of the Hon. H. A. S. Dearborn, in Roxbury. The tree is about thirteen years old, and of vigorous growth; fruit of medium size; it is rounded at the crown, and regularly diminishes in a parabolic manner to the stalk, which is inserted in a small cavity; the skin is smooth, thin, green, sprinkled with russet points, and a fawn-coloured blotch around the stalk, which is short, and curved; at maturity the skin is a delicate yellow. This pear was examined by the committee of the Massachusetts Horticultural Society, in August, 1831. It was very melting, and of the finest flavour; fully equalling, in this respect, the very ancient and once famous and delicious St. Michael; and was named by them Dearborn's Seedling. The tree produced fruit, for the first time, in that year; and promises to form a valuable addition to our stock of summer fruit." (p. 155.)

"Cushing, S. Downer, Esq. — This superior wilding was so named by the Massachusetts Horticultural Society. It originated, about forty years ago, on the grounds of Colonel Washington Cushing of Hingham, Massachusetts. The fruit is of medium size, oblong, contracted towards the stalk, which is short; the skin smooth, light green, but brownish-red next the sun; flesh whitish, melting, and full of delicious juice; sprightly [sharp], and of first-rate excellence. The tree is a great and constant bearer; and, although growing in an uncultivated pasture, it has produced annually 14 bushels of fruit; and may be recommended, with confidence, as one of our finest native varieties. Season, middle of September." (p. 168.)

"Dix, S. Downer, Esq. — This very fine native pear originated in the garden of Madam Dix, in Boston: it sprang from the seed about eighteen years since. The tree is of medium vigour; the young wood is thorny. It is very productive. Fruit large, oblong; skin rough, thick, green, but yellow at maturity, with a fine blush on the side exposed to the sun; the stalk short, and situated on its summit. Flesh melting, juicy, rich, and of fine flavour; and thought to be even superior to the St. Germain. It ripens from the middle to the last of October; and bids fair to be one of our very best autumn pears; and may, with safety, be recommended for general cultivation, for its beauty, fine flavour, and bearing." (p. 170.)

"Gore's Heathcot. — A native pear, a capital variety, which deserves to be ranked with the Seckel and Bartlett; raised by Mr. Heathcot, at the farm of the late Governor Gore, from the seed sown in 1812. The tree is remarkably

upright and handsome in its growth; the young wood is red and thorny. The fruit is rather large; its diameter is three fourths of its length; contracted towards the stalk; the colour fine yellow or straw, tinged with red next the sun; the flesh is rich, melting, and of most excellent flavour. Competent judges have decided upon this. It is a constant bearer; and the young tree produced, in 1831, 5 bushels of pears, according to Mr. Toohey, who has introduced this pear to notice. It ripens in September, and is highly deserving of cultivation." (p. 174.)

"*Wilkinson*, Mr. Downer. — This new and fine native pear originated in Cumberland, Rhode Island, on the farm of Jeremiah Wilkinson, brother to the celebrated Jemima Wilkinson; and was introduced here by Stephen H. Smith, Esq., of Providence, in 1829, and was so named by the committee of the Massachusetts Horticultural Society. The tree is healthy, and a good and constant bearer; the size and form are those of the St. Michael; the skin is dark yellow, with a brownish blush, at maturity, next the sun. The flesh is whitish, melting; flavour very peculiar, possessing the fine flavours of the old St. Michael and St. Germain combined; with a delicious sugary juice, sprightly [sharp], and pleasant; having distinctly the flavour of the rose and aroma. This superior seedling will be a very handsome and great acquisition to our gardens. Season, October and November." (p. 187.)

"*Lewis*, Mr. Downer. — A valuable native pear; it originated on the farm of Mr. John Lewis, in Roxbury, Massachusetts. The size is medium; form somewhat globular; the stalk is long; the skin is dark green, and coarse; the flesh is whitish, very melting, juicy, and excellent. It ripens by the middle of November, and may be kept till February and March. The tree, when loaded, droops like the willow. This new and excellent pear is a very great and constant bearer: it is productive to a fault, and possesses the valuable property of hanging on the tree to a very late period; and is highly deserving of cultivation. This fruit sells very high in winter in the market." (p. 195.)

PLUMS.

"*Bleecker's Gage*, *Bleecker's German Gage*. — This plum is stated to have been raised by the Rev. Mr. Bleecker of Albany, from the stone of a German prune. It is described as a large globular fruit, of excellent quality, and a great bearer." (p. 255.)

"*Blue November Gage*. — 'The Blue November Gage is extraordinary for its late ripening, and the length of time it will remain upon the tree; I have picked them in December. It is of good flavour, and of medium size. They are all (the *Nota Bene*, the *Admiral*, the *Field Marshal*, and the *Rising Sun*) very productive: some of them bear too much.' " (p. 256.)

"*Corse's Admiral* was raised by Henry Corse, Esq., of Montreal. 'The colour of this fruit is dark purple, about the size of the *Magnum bonum* or *Yellow egg*, but of good flavour;' 'very productive and excellent.'" (p. 257.)

"*Corse's Field Marshal* was raised by Henry Corse, Esq., of Montreal. 'This plum is about the size of the *Admiral*, and bright red; the most showy plum that I have ever seen, and of good flavour;' 'very productive and excellent.'" (p. 257.)

"*Corse's Nota Bene*. — This plum was raised, from the stone, by Henry Corse, Esq., of Montreal, who has made annual experiments since 1812, and has succeeded in rearing several varieties of undoubted excellence: this variety he considers the most superior of all, and very productive." (p. 258.)

"*Corse's Rising Sun*. — This plum was raised by Henry Corse, Esq., of Montreal. 'This fruit is about the size of the *Bingham*; bright yellow, with a tinge of red on the sunny side;' 'very productive and excellent.'" (p. 258.)

"*Huling's Superb*. — From information from a variety of sources, I shall attempt the description of this plum, which is said to be identical with a new plum known at Philadelphia as the *Keiser*. The fruit is extraordinarily large, of a globular form; resembling, in this last respect and its colour, the green

gage, but far exceeding it in size. A first-rate fruit; sweet, and very fine-flavoured." (p. 261.)

The above-described sorts will all be proved in the Chiswick Garden, and their respective merits made public through this Magazine; but, in the mean time, plants may be procured of Mr. Kenrick, the author of the book, who is a nurseryman at Newton, near Boston, United States.

All the new fruits which are deserving of general cultivation will, as Mr. Thompson observes, be found in the new edition of our *Encyclopædia of Gardening*, completed in one volume on the 1st of December last, 1834; and also publishing in Numbers, the 14th of which appears with the present Magazine. The catalogues of fruit trees given in the above work would more than fill two of our Magazines, otherwise we should reprint them here; but, for the benefit of those who cannot afford to purchase the *Encyclopædia*, or have not an opportunity of referring to it, we give from it Mr. Thompson's selections for small gardens. These may be confidently relied on, as by far the best selections that ever have been made for the cottager: for no man is better acquainted with the subject of fruits than Mr. Thompson; and no man has the interest of this portion of his fellow-creatures more at heart. All the synonymes belonging to the following names will be found in the *Encyclopædia*, or in the *Horticultural Society's Catalogue of Fruits*, 2d edit. 1832:—

APPLES.

"For Cottage Gardens, where the Soil and Situation are favourable for the Production of the Apple, the following Sorts are recommended by Mr. Thompson:—Where the space will admit of only one tree, the best is the Ribston pippin; where two, the Ribston pippin and the Dutch mignonne; where three, the Wormsley pippin, Ribston pippin, and Dutch mignonne; where four, the Wormsley pippin, King of the pippins, Ribston pippin, and Dutch mignonne; where five, the Wormsley pippin, King of the pippins, Ribston pippin, Old nonpareil, and Downton nonpareil; where six, the Wormsley pippin, King of the pippins, Ribston pippin, Alfriston, Old nonpareil, and Downton nonpareil; where seven, the Wormsley pippin, King of the pippins, Ribston pippin, Alfriston, Dutch mignonne, Old nonpareil, and Downton nonpareil; where eight, the Wormsley pippin, King of the pippins, Ribston pippin, Bedfordshire foundling, Court pendu plat, Alfriston, Brabant bellefleur, and Scarlet nonpareil or Downton nonpareil; where nine, the Wormsley pippin, King of the pippins, Ribston pippin, Bedfordshire foundling, Court pendu plat, Alfriston, Brabant bellefleur, Scarlet nonpareil, and Downton nonpareil; and where ten, to the preceding add Pennington's seedling."

"For training against Cottages, or Walls in Cottage-Gardens. 'It often happens, that one or more trees can be trained against a cottage wall or roof, or against some wall appertaining to a cottage; in these cases, the proper sorts are Ribston pippins, Old nonpareils, and, if a large kitchen apple be required, the Bedfordshire foundling.'

"In Situations liable to Spring Frosts, 'which so often kill the blossoms of the generality of apples, the Court pendu plat is recommendable, as its blossoms expand very late in the season.'

"Under less favourable Circumstances, 'where the Ribston pippin may not succeed, the Bedfordshire foundling will be a hardier substitute, or the King of the pippins, which is still hardier; the Northern greening may be planted for late kitchen use. For an autumn kitchen apple, perhaps, none, in this case, is more to be recommended than the Keswick codling. The Hawthorn-den comes into an abundant bearing state at an early age; and, were it not liable to die off in some soils, it might be preferred to the preceding.'

"A wet Soil, and a 'cold bleak situation, are what the cottager has the greatest difficulty in contending with; a poor soil he can enrich. In some instances it may be possible for him to remedy a wet soil by drainage; but in other cases, he may find this beyond his means. He should, however, take care to plant the tree very shallow, or even place it entirely on the dug surface, and then cover the roots with the best mould he can collect. This he should afterwards keep mulched if the weather becomes very dry; but otherwise he should only keep the soil slightly stirred occasionally by a fork; or, if this cannot be done without injuring the roots, merely hoeing it will be better. In short, every thing should be attended to that will encourage the roots to run near the surface; the latter should, therefore, be trod upon as little as possible. Rotten manure should be applied; even leaves could be collected and applied in a state approaching to vegetable mould.'"

PEARS.

"Sorts of Pears to be recommended where the Space is very limited; or for Cottage Gardens. — Jargonelle, Marie Louise, Beurré de Capiaumont, Beurré Diel, Glout morceau, Easter beurré, Beurré rance. These are all of first-rate excellence, deserving the protection of walls, where such can be afforded; but, with the exception of the jargonelle, they are all hardy enough for standards, in any climate tolerably good as regards the growth of this class of fruits. It would be difficult to select fewer sorts than the above; because some might prefer a sort which would come fit for use in autumn, others in winter or spring. Several sorts may, however, be worked on the same tree, where the space will not admit of one of each being planted. For instance, the Beurré de Capiaumont is such a great and constant bearer (nothing to the contrary has been observed of it since it first began to bear in this country), that a whole tree would be more than sufficient for a small demand; it might, therefore, be partly worked with Glout morceau or Easter beurré. It may be farther remarked, that the Beurré Diel requires to have the branches kept rather thin, as otherwise its large and abundant foliage becomes too dense for the admission of sun and air to the fruit."

PEACHES.

In forming a small Collection of Peach Trees, say of twenty-four trees of the very best sorts, and which will ripen their fruit in succession, the proportions, Mr. Thompson says, may be: —

"Early Anne 1, Gross mignonne 3, Royal George 2, Double montagne 2, Noblesse 2, Malta 1, Royal Charlotte 2, Bellegarde 4, Barrington 3, Late admirable 4. Should any of these, however, not agree with the soil and situation, or should more be required at any particular season, then the proportions may be varied, or some others introduced; such as the Acton Scot, Spring Grove, and Mountaineer, which may probably be found hardier. The best varieties for forcing are, the Belgarde, Gros mignonne, Royal George, and Barrington."

NECTARINES.

"For the chief Supply of Nectarines, none are so good as the Elruge and Violette hâive. Hunt's tawny may be recommended as one considerably

earlier than these; and, for a very late sort, one hitherto little known in this country, the Late yellow, deserves notice. In a warm soil and favourable situation, the New white nectarine will produce fruit which will not only form a beautiful contrast in the dessert, but will likewise be esteemed for its flavour."

APRICOTS.

The best sorts are, the Red masculine, Large early, Royal, Moorpark, Breda, Orange (principally used in preserving), and Turkey. (*Encyc. of Gard.*, p. 918.)

PLUMS.

"*Selection of Sorts.*—The following are recommended by Mr. Thompson for a small garden:—Drap d'or, Green gage, Kirke's, Washington, Reine Claude violette, Coe's golden drop, Blue impératrice, Coe's fine late red, Early Orleans, Shropshire damson, Diamond and White magnum bonum.

"*A still more limited Selection*, if required, may consist of the Green gage, Washington, Purple gage, Coe's golden drop, and Orleans.

"*The Sorts most deserving of Walls* are, the Green gage, Kirke's, Washington, Reine Claude violette, Coe's golden drop, and Blue impératrice."

CHERRIES.

"*Selected Lists.*—The following selected lists will be found suitable for different purposes and situations:—*For standards.* May duke, Royal duke, Late duke, Black eagle, Elton, Downton, Knight's early black, Black Tartarian, Morello, Kentish.—*For a south wall.* Early purple guigne, May duke, Knight's early black, Elton, Royal duke.—*For a north wall.* Morello.—*For an east or west wall.* May duke, Royal duke, Black Tartarian, Elton, Florence, Bigarreau.—*For preserving.* Kentish, Morello.—*The earliest cherries* are, Early purple guigne, Werder's early black heart, May duke, Knight's early black, Bowyer's early heart.—*The latest cherries* are, Late duke, Florence, Bigarreau tardif de Hildesheim, Morello."

GOOSEBERRIES.

The following deserve a place in every collection for table use:—*Reds*: Small dark rough red, Red champagne, Keen's seedling Warrington, and Red Warrington.—*Yellows*: Yellow champagne and Early sulphur.—*Greens*: Early green hairy, Glenton green, Pitmaston green gage (this fruit is deserving of particular notice; in some seasons it will hang till it shrivels, and almost candies, on the tree); and Massey's heart of oak.—*Whites*: Taylor's bright Venus (of excellent flavour), Woodward's whitemith, and Crystal. For early sorts, the Small dark rough red, Keen's seedling Warrington, Miss Bold, and Wilmot's early red; the Early sulphur; the Early green hairy and Green walnut; and the Early white may be selected. For late sorts, the Red Warrington, Leigh's rifleman, Bury farmer's glory, and Farrow's roaring lion; the Late green; and Cook's white eagle. [Some of the best large sorts are:—*Reds*: Roaring lion, Top sawyer, Crown Bob, and Wonderful.—*Yellows*: Rumbullion, Piggott's leader, and Gunner.—*Greens*: Bumper and Peacock.—*Whites*: Eagle and Ostrich.]

CURRENTS.

Black: The Black Naples is the largest and best; and next to that, the Black grape. — *Red*: The best are the Red Dutch, Knight's large red, Knight's sweet red, and Knight's early red. [Wilmot's new red, exhibited last summer, at one of the exhibitions of the Horticultural Society (see X. 411.), is the largest-berried variety, we believe, known.] — *White*: The best is the White Dutch.

RASPBERRIES.

The best are: — *Reds*: the Barnet, Antwerp, and Double bearing. — *Yellow*: the Yellow Antwerp.

STRAWBERRIES.

Scarlets: — Old scarlet, a shy bearer, but of high flavour, a great favourite with confectioners; Grove End scarlet, an abundant bearer; Roseberry, adapted for forcing; Gomstone scarlet, Black roseberry, American scarlet, and the Coul late scarlet, which does not ripen till all the others are nearly, if not quite, over. — *Blacks*: the Downton, excellent for preserving; and the Elton seedling, a great bearer, but ripening late. — *Pines*: Keens' seedling, the very best of all the sorts for general cultivation; the Old pine; [Myatt's seedling, a shy bearer, but with a very high pine flavour; so much so, that when Keens' seedling is selling in Covent Garden market at 6d. a pottle, Myatt's seedling is selling at 3s. a pottle. It generally bears two crops a year, the second crop coming in about Lord Mayor's Day (Nov. 9.). In consequence of its flowering and bearing twice a year, the plants soon exhaust themselves, so that they cannot be depended on either for duration or a crop. (G. C.); and Knevet's seedling, large, prolific, and very highly flavoured.] — *Chile*: Wilmot's superb, very large. — *Hautbois*: Prolific, and Large flat. — *Green*: the Green pine. — *Alpines*: Red, White, Red wood, and White wood.

FILBERTS.

The red and white filberts, the Cosford nut, and the cob nut, are the best.

PINE-APPLES.

The Queen, Moscow queen, Black Jamaica, Brown sugar-loaf, Ripley, St. Vincent; Black Antigua (this should be cut as soon as it begins to turn yellow, or it will lose its richness); Enville, Lemon queen, White Providence, and Trinidad. This last is the largest grown, being reported to reach sometimes 26 lbs.

VINES.

"Vines to plant against a common Garden Wall of South Exposure, or against the Walls of a House. — The Early black, White muscadine, Grove End

sweetwater, Pitmaston white cluster, White and Black sweetwater, Small and Large Black and White cluster, Black esperione, &c.

To plant a Vinery for early forcing, take the preceding sorts; or Esperione, Black prince, Cambridge Botanic Garden grape, White muscadine, Royal muscadine, White sweetwater, White Frontignan, Grove End sweetwater, and Red Frontignan.

Some new varieties of grapes have lately been raised by Mr. Williams of Pitmaston, and the fruit exhibited and tasted at the meetings of the Horticultural Society, in October, 1834, which promise to be hardy and high-flavoured. Money's hardy muscat, or Eshcolata (IX. 384.), seems to deserve trial; and a very dark variety of black Hamburg, in the Lewisham Nursery, produces fruit, which, on account of its colour, sells at 6*d.* a pound more than the common Hamburg. We expect soon to be able to announce a very superior variety of winter grape, as introduced from Belgium.

FIGS.

"*Lindley's Selection* for a small garden in the southern and midland counties of England is as follows:—Black Ischia, Brown Turkey, Brunswick, Chestnut, Malta, Pregussata, Large white Genoa, Marseilles, Nerii, Small early white."

It is proper to observe, that, in the Horticultural Society's garden, little or no experience has as yet been obtained on the subject of grapes or figs; and that our selections of these fruits are the joint result of Mr. Thompson's recommendation and our own observation. A good vinery for proving the grapes, and a suitable wall for proving the figs, are desiderata in that garden which, we trust, will speedily be supplied.

With regard to fruits proved in the garden of the Caledonian Horticultural Society, we refer to X. 397. At the general meeting of the Society, held Sept. 4., several seedling fruits of merit, or of high promise, were exhibited. Among these were a seedling plum nearly allied to the green gage, but ripening on standard trees, raised by Mr. Alexander Mitchell, gardener of Robert Bruce Dundas, Esq., of Blair; and two excellent seedling peaches, raised from kernels of American kinds, by Mr. James Taylor, gardener to the Earl of Dunmore. At the meeting of Sept. 16., a seedling apple and a seedling pear were shown, and both considered promising, raised, at the Mains of Bothkennar, by Mr. John Hardie; and a small branch of the Bursut apple, studded with fruit, was sent by Mr. Gorrie. The tree was of dwarfish growth, and produced numerous clusters of fruit. At the meeting of Nov. 6., two seedling apples were exhibited: one raised, by Mr. John Soutter, gardener to Colonel Spens of Craigsanquhar, by crossing the golden pippin with the scarlet nonpareil; and the other, from the pips of the Doonside, by Mr. Robert Scott of Gowanglen Orchard, parish of Carluke.

ART. XV. *Olitorial Notices; or, Notices of new Culinary Vegetables, deserving of General Cultivation in British Gardens.*

VERY little can be added to the lists in the new edition of the *Encyclopædia of Gardening*, which are contained in Nos. 13. and 14.; but it may be useful to quote the following introductory remarks to that list: —

“Most culinary vegetables are propagated by seeds, and these seeds the gardener, for the greater part, purchases annually from the seedsman; raising only in his own garden some few of the more select or important kinds. It follows from this, that the qualities of the seeds vary exceedingly, not only according to the season in which they may have been grown, but according to the means of the seedsmen for procuring the best varieties. Experience also shows that the varieties of the more common culinary vegetables in cultivation are continually changing, from soil, culture, climate, or other causes; so that a sort of pea, or cabbage, or onion, which is very popular one year, may, in three or four years, be almost forgotten. Varieties also are continually changing their names, and often many names are applied to one variety. Hence a number of the varieties enumerated in the following catalogue were not known when the first edition of this *Encyclopædia* was prepared in 1820; and a number of those mentioned in that edition are now nearly forgotten. From all this it follows, that the business of procuring garden seeds is one of very great difficulty, though it is one of the greatest importance to the cultivator, since a bad variety requires the same care and attention as a good one, while it produces an inferior article, or perhaps fails altogether. As no gardener can grow all or even the greater part of the seeds which he requires, he must necessarily deal with seedsmen; and, as a matter of prudence, he should choose one in whom he has perfect confidence. He should also give a certain latitude in his orders as to new varieties, always requesting to have sent to him, in addition to the usual sorts, any new sorts which may be considered superior. It were much to be desired, that seedsmen would print their catalogues annually, instead of once in every four or five years; and that they would include in them all the synonyms, distinguishing them as such, and not introducing them as distinct sorts. This would greatly reduce the apparent number of varieties, and much simplify the business both of gardener and seedsman. As the seed business is at present carried on, there are perhaps twenty names in a list for which there are not more than ten, or sometimes not even five, distinct articles; but the seedsman answers orders for the whole of the twenty names, by sending out the same sorts under several names; thus perpetuating throughout the country a number of names which can only serve to create confusion. In the following catalogue we have simplified the lists as much as possible; in which task we have had the invaluable assistance of Mr. Munro, of the London Horticultural Society’s Garden, where nearly all the culinary vegetables of Europe have been grown, compared, and had their nomenclature adjusted.”

Though we gave a pressing general invitation to seedsmen and gardeners to furnish us with hints for this article, in the preface to the tenth volume of the *Gardener’s Magazine*, published in December last, yet none have sent us any information except Mr. Charlwood, seedsman, Tavistock Row, Covent Garden; and Mr. Gordon, foreman of the arboretum in the Horticultural Society’s garden at Chiswick, and formerly, and for some years, at the head of the horticultural department of that garden.

From the materials thus received, and from our own resources, we give the few following names:—

The Cabbage tribe.—The early Dwarf Russian cabbage is recommended by Mr. Gordon, as preferable to all the other earlies. The Dwarf Portugal cabbage he strongly recommends as an article of luxury. *The new Russian Dwarf Broccoli* is said to be one of the best sorts.

Peas.—Knight's new green tall marrow, Knight's green marrow, and the Early Warwick, are very strongly recommended.

The D'Auvergne Pea, synonyme *D'Auverigny*, is an excellent pea. It was sent to the Horticultural Society from M. Vilmorin, of Paris, and is described in the *Bon Jardinier* for 1832, p. 269., as being new, very productive, and excellent. It is also described in the *Hort. Trans.* 2d series, published January, 1834 [after our article on the pea in the *Encyc. of Gard.* was printed]. Vilmorin's sugar pea is also described in the same volume of the *Hort. Trans.* as deserving cultivation.—G. Gordon. *Chiswick Garden*, Dec. 12. 1834.

Kidneybeans.—The Painted Lady runner has a beautiful scarlet and white blossom, is very prolific, and does not grow so tall as the common scarlet runner. The scarlet-blossomed long pod, is an improved variety.

Carrots.—The purple-skinned and the white-skinned varieties, are novelties; but, as it appears to us, more of curiosity than value.

Turnips.—The following three sorts are of excellent quality, and nearly, if not quite, new to English gardens:—1. *Navet blanc plat hâtif*. This is a small flat white turnip, of excellent quality, which comes into use a week earlier than the early Dutch. *Navet rouge plat hâtif*.—This is like the preceding in shape, but rather longer, and not so early by a week; the part above ground is of a dull purplish colour. [The seeds of these sorts may be obtained from M. Vilmorin, Paris, by whom they were sent to the London Horticultural Society's garden.] *The Black Turnip* is a valuable summer and autumn variety; it is rather larger than the early Dutch, of a globular form, and very firm; with the outside skin dark brown, and the inside white. It is very hardy, and remains long in perfection. It was sent to the Horticultural Society's garden, by the Messrs. Booth of Hamburgh.—G. G.

The Fortyfold Potato, originated by Mr. Taylor of Preston, is very prolific; and is said to be very mealy and good-tasted.

The O'xalis crenata has been much talked of, as an auxiliary to the potato; and it seems to have some merits as a tart plant, its stalks being peeled and used exactly like those of the rhubarb. (See Vol. X. p. 60. 66. 271. 453. 590. 603. and 606.)

Radishes. — The *Radis rose demi-longue* is a very superior variety, lately received from Paris. It is of a fine bright scarlet colour, and is an intermediate sort, between the long and round rooted varieties. It is very handsome, very early, of excellent quality, and remains longer in perfection than any of the long-rooted kinds; it is well adapted for growing in frames.

Artichokes. — The green globe is much the best variety: it is of a light green colour, and looks handsomer on the table than any of the others. Mr. Gordon says, he has “found that running small pieces of lath, or splinters of any wood through the flower stems, within 4 in. of the flower or head, at right angles to the stem, and keeping the wound open, retards the opening of the flower, and makes the head nearly double the ordinary size.” This is a German practice, and seems to operate, like ringing trees, by impeding the return of the sap, and so stagnating it in the head.

The Flanders Spinach, though it has been several years in the country, cannot be too generally introduced. In consequence of the largeness of the leaves, the plants require to stand at a foot apart every way, which greatly lessens the labour of thinning out, cleaning, and even gathering. The seeds may be placed in drills at a foot apart in the row, which will save seed, and lessen the trouble of sowing and thinning. The plant is, in short, as economical as it is superior in quality.

The Quinoa we have recommended in our preceding volume, p. 587., for trial, as a spinach, and as an agricultural plant; some seeds of it may be procured from Mr. Charlwood, through the kindness of Mr. Lambert.

The Italian and the Kentucky Celery, are recommended as the best. See Vol. IX. p. 671.

We again request attention to the introductory paragraph to this article; and we would recommend attention to Mr. Charlwood’s advertisement, in p. 2. of the advertising sheet of our December Number. Besides the new culinary vegetables there enumerated, are the names of a number of select flower seeds, which are only to be procured after such a fine summer as the last.

Seeds of most kinds of culinary vegetables have ripened remarkably well during the past summer; and the same may be said of the seeds of flowers. In consequence of this, some varieties and species, which have not appeared in the seedsmen’s lists for two or three years, will be found reintroduced in such lists as may be printed for 1835.

MISCELLANEOUS INTELLIGENCE.

ART. I. *Foreign Notices.*

FRANCE.

THE Foreign Trees of France. — I am going to write to my correspondents respecting the foreign trees which you enquire about. I know something of them myself; but my notions are either too vague or too limited for your purpose. What I can provisionally state is, that at Rambouillet a very handsome mass of *Quercus rubra* is extant. I saw it about twelve years ago; the trees were, as far as I can recollect, nearly 50 ft. high; but they were a great deal too close, which made them quite disproportioned in thickness to their height. Their straight clean trunks and healthy appearance made them, however, very remarkable, and even beautiful; and they must be much more so now, especially if they have been thinned, as I have been told they were, some years ago. There were likewise a number of *Schubertia disticha*, among which were some very thriving ones, about 30 ft. high, and sending up excrescences from their roots [as at Syon, and other places where old *schubertias* are found near water], some of which are already 1 ft. above the ground. These were not the only foreign trees, at Rambouillet; but you shall know more of them in a short time.

Very few trees must be remaining in what was once the garden of Michaux's friend Lemonier, near Versailles. The rare trees were sold or felled, fifteen or twenty years ago; though I think there is a large *Sophora japonica* remaining: but you shall soon know the present state of that place.

As for the beautiful magnolia of Nantes, it was full of health and vigour not long ago, and, I hope, is so still; but I will tell you more precisely ere long.

We have a great many more very valuable and beautiful foreign trees in France, which it would require two or three years of a man's life to examine and describe; sometimes even to determine, as their species, especially those of the American oaks, are not unfrequently unknown by the possessors. There is even a doubt to clear up about the *Q. rubra* of Rambouillet; either Bosc, or Michaux sen., or some other botanist having mentioned them as being *Q. coccinea*. [Our opinion is, that these and several other reputed species of American oaks are only varieties.] Among numerous other places, the ancient possessions of Duhamel, near Pittriviers; those of the Comte de Dijon, near Nerac; Thury, belonging to the learned Vicomte Héricourt de Thury (who has given a notice of the trees there); the estate of the Comte de Montbron, near Chatellerault, are very important ones. — *Vilmorin. Les Barres, Nov. 28. 1834.*

The Exotic Plantations of Madame Aglaé Adanson, at Boleine, near Moulins, are very remarkable. I have sent that lady one Return Paper, and feel confident that she will do it justice. I have also sent one to M. Jacques, gardener to the king, at Neuilly. When you write to my excellent friend Michaux, you should ask him to send you the particulars of the government plantations of American trees in the Bois de Boulogne. — *Idem.*

Benthàmia and Maclura. — The single seeds of these plants, which you were so kind as to send me, have both come up, and the *Benthàmia* is already a small branchy bush, 7 in. or 8 in. high. I should be glad to know where I could purchase seeds of the shrub. — *Idem. Paris, Oct. 30. 1834.*

The Spanish Potato, or Batatas; Patate Igname, Fr.; Convólulus Batâtas L. — At the meeting of the Horticultural Society of Paris, held Oct. 1., M. Vilmorin exhibited a Spanish potato or yam (*Convólulus Batâtas*), weighing upwards of 8 lbs., grown by him in the Department of the Loiret. He has grown others weighing 2 lb., 3 lb., and 4 lb. each. These tubers belong to a variety lately cultivated in Guadaloupe, whence it was sent to M. Vilmorin by M. Bernard de Luchet. It is called, in that country, the potato

yam, on account of the largeness of its size. Several plants have produced flowers, from which circumstance it is hoped that seed will finally be obtained from them. According to this report, and that of several others, it is probable that this plant will prove an interesting acquisition to the French gardens. — *J. B. Paris, Nov. 1. 1834.*

ART. II. Domestic Notices.

ENGLAND.

A BOTANIC Garden is about to be established by the Eclectic Society; "which garden is to contain all the indigenous plants of Great Britain." We hope the intentions of this Society, of the existence of which we were not previously aware, will speedily be realised. For a curator, they could not find a more suitable practical gardener, or a more scientific botanist, than Mr. Scott, late botanical cultivator in Mr. Knight's Exotic Nursery. — *Cond.*

Some Animals are kept in the Botanic Garden at Bury St. Edmunds. — Mr. Hodson, the proprietor and superintendent of this garden, has added to the attractions of it some living animals, as a nucleus of a collection which he hopes to extend. The river Lark passes through this garden; and escapes beneath arches, which support the boundary wall in this part of the garden. The stream and arches are objects of interest; in the respective beauty and character of each, and in the historical associations induced by the arches, once part of the precincts of the grounds of the famous abbey of Bury St. Edmunds. The whole of the botanic garden is within these grounds, and occupies a considerable portion of them; it is in quantity about, we believe, nine acres. The river affords eligible range, and some degree of provision, for waterfowl; and we observe that most of the animals at present obtained, enumerated in the following list sent us by Mr. Turner, the curator, are of this kind: — Swan, two pairs; spoonbill, a pair; the common heron, a pair; Canada goose, a pair; Muscovy duck, a pair; hook-billed duck, a pair; widgeon, a pair; pin-tailed duck, a pair; a golden-eyed diver, a stork, pheasant, two pairs; silver pheasants, three individuals; golden pheasant, two individuals; Spanish rabbit, or lobbed-eared rabbit, a pair; a guinea pig or spotted cavy, a pair. — *J. D.*

Mr. Weekes's Mode of heating by hot Water is spreading extensively, both in the neighbourhood of London and in the country; apparatus being now in course of erection, by the inventor, in no fewer than twelve different counties. In all, the principle is the same, viz. that of heating the water in cast-iron pipes; which form a casing to the fireplace, on each side, above, and sometimes even below, the fire. The water, being heated, is raised to a small cistern, elevated five, six, or any number of feet above the fire; whence it descends, and circulates either on a level with the fireplace, or above or below it, as described in IX. 37., and in the *Encyclopædia of Gardening*, new edit. § 2534. One of the best specimens of the application of this mode of heating to hot-houses, may be seen in the small stoves for orchideous plants, which were erected in Knight's Nursery, King's Road, last summer. Here the water being raised to the small cistern above mentioned, is made to descend through one, two, three, or four different pipes at pleasure, by plugging up those not wanted; and, consequently, heats one, two, three, or four different houses, or pits, as may be desired; or any one house or pit, in a one, two, three, or four-fold degree. At the Bishop of London's gardens, at Fulham, we have also seen this system in complete operation. Mr. Weekes has recently taken out a patent for applying his mode of circulating hot water to cooking, in a new description of kitchen-range, which will be found noticed in our *Architectural Magazine*, ii. p. 44.

White Knights, Nov. 19. 1834. — My seedling plants of *Magnolia conspicua*, that were sown in March, 1832, are doing well. I plunged them into a

border, in the spring of 1834, of peat and loam, of each about an equal quantity; and they now average 3 ft. in height. I have two seedlings, which came up at the same time, from the *conspicua* seed; which very much resemble, in every particular, the *M. tripétala*, and which are now about 18 in. high in pots. I see, in the *Encyclopædia of Plants*, and in the *Hortus Britannicus*, the date of the introduction of the *O'rnus europæa* is 1810; but, when it is known that the present Duke of Marlborough received many packages of plants and seeds direct from the Continent, you may not think their having been planted here twenty-five years, as I have indicated in the Return Paper, erroneous. I date from the planting of the major part of the plants here, not from their actual age; but I am told, by those men who work here now, and who worked here at the time these trees were planted, that they were invariably small at the time of planting. The *Ailántus glandulosa* flowers here freely every year, but does not show any but male blossoms. I have gathered, off the *Quércus Süber*, three dozen of acorns this season, which, to all appearance, are perfectly ripe. Are instances of the kind common in England? [They occur occasionally; and we have heard of a few this season.] There are here a great many species or varieties of *Quércus*. There are also many fine young plants of *Schubértia*, and twenty-four very large ones of the *Laúrus nóbilis*. We have of *Magnòlia tomentosa* 1, *conspícua* 6, *grandiflora* 22, *auriculata* 2, *glauca* 55, *macrophylla* 1, *cordata* 4, *tripétala* 30, and *acuminata* 14; of *Arbutus Uredo rubra* there are 18, *A. Andrachne* 2, *Stuártia Malachodéndron* 12, *Chionánthus virgínica* 6; *Pavia macrostachya* 12, *P. flava* 6, *P. rubra* 3, *O'rnus europæa* 18; and *Córnus flórida* 13. — *John Ward*.

High Clere, Nov. 29. 1834. — I called here with a view of leaving a Return Paper, but I found you had already sent one. Since you were at High Clere, a large addition has been made to the heath-mould quarter; and they have planted out singly the *Rhododéndron campanulatum*, which is growing with very great vigour. It is thoroughly hardy, and appears to have the habit of a very sturdy tree-like shrub. Lord Caernarvon, who is very fond of the place, has just laid out a drive through the great holly and pine wood. They have taken great pains with it; and, next spring, it will be in a very forward state, a detachment of labourers having been especially appropriated to it. It will be between three and four miles long, and full of vicissitude and beauty. The *Cotoncáster microphylla*, as an isolated shrub upon the grass (and it is even 16 ft. in diameter), produces a most striking effect, and attracts universal notice. — *P. D.*

Remarkable Foreign Trees. — The largest tulip tree that ever I saw in England is at Mount Edgecombe; the largest cork trees and ilices, at Mamhead; one of the largest cypresses is at Powderham Castle; the largest cedars are at Wilton (a remarkable one is, also, at Althorp, and the more observable, because standing single and on high ground); a large deciduous cypress at Port Eliot, and another at Ken Wood. Of these you should endeavour to get the dimensions; not of the trunk only, but of the height also, and spread of the branches, and, so far as is possible, the precise ages. There are a great many rare and curious trees at Lord Ravensworth's, at Percy's Cross, near Parson's Green; a remarkably fine catalpa at Hampton Court Palace; one hanging over the road at Shepperton; an arboretum, and many well-grown cypress trees, at Lord Coventry's at Croome; and many fine specimens at Syon. The bishop's garden at Fulham has also some curious forest trees. — *B. Dec. 6. 1834.*

Fine Trees near London. — There is a fine *Gledítschia triacanthos* in the Clockhouse garden at Chelsea; and one of the finest specimens in England in the garden of "Sylvanus Urban, Gent.," at Hammersmith. The finest specimen of a *Magnòlia macrophylla* now in existence in England is in the Duke of Devonshire's garden at Chiswick; it is in beautiful health, blossoms freely, and a more splendid production of the northern flora cannot be conceived. There is, or was, a good specimen, also, at Mr. Gray's at Harringay. There

are fine magnolias at Cobham ; at Englefield Green, near the turnpike, is one of the finest tulip trees in England. The largest Oriental plane is at Lee in Kent. (*J. M.*, in *Gent. Mag.*, vol. i. new series, p. 501.)

Fine Trees and Shrubs in Suffolk and other Parts of England. — All the magnolias, including the *M. grandiflora* as a standard, the camellias, myrtles, *Acacia Julibrissin*, pomegranates, and *Arbutus Andrachne*, thrive well on the east coast of Suffolk ; a province and latitude not reckoned particularly favourable to vegetable growth, from its dryness, and exposure to the east winds. The largest cypress in England is, we believe, in the parsonage garden at Sutton, near Ipswich. There are very fine andrachnes in the garden of Col. Mitford, at Exbury, on the Beaulieu river in Hampshire ; and some fine specimens, bearing fruit, so far north-east as the Earl of Stradbroke's, at Henham, in Suffolk. There is also a very fine hybrid *Andrachne* in the garden of Mr. Wells, at Redleaf, where that rare plant the *Rhododéndron caucasicum* grows and blossoms freely. The *Pinus palustris* is scarce in English gardens : there is a good one at Henham, and in the Mile End Nursery ; there was a fine one in the gardens at Malmaison, but it will only bear the southern climate of England. There is a very fine *Quercus tinctoria* at Cashiobury. The handsomest specimen we know of that beautiful tree, the *Pópulus angulata*, is at Lord Calthorpe's, near Livermere, where is also one of the largest cedars in England. The finest *Rhododéndron pónticum*, probably, in Europe is at Cuffnells. (*Ibid.*)

We have inserted this, and similar articles, in the hope that some of our readers will send us dimensions of the trees and shrubs named ; and will also be good enough to direct our attention to other remarkable specimens. In our *Arboretum Britannicum*, when describing each particular species, we wish to be able to give references to existing specimens ; not only in different foreign countries, but, if possible, in each particular county of Great Britain and Ireland ; and not of one specimen only, but of as many specimens as we can procure notices of. Our readers and correspondents, we trust, will bear these things in mind, and assist us accordingly. — *Cond.*

The Ficus elástica, or Indian-rubber Tree, has this year fruited in the conservatory at Syston Park. In 1828, I planted a small plant, about 18 in. high, in a bed composed of equal parts of peat loam and vegetable earth ; and in four years it attained the height of 18 ft., and reached the glass. I then cut it back 2 ft., which caused the horizontal branches to push side shoots, which shoots showed fruit the same summer, and the fruit got to its full size in October when it turned brown, and dropped off. The stem of the plant is perfectly straight to the height of 16 ft., and it measures 17 in. in circumference at the bottom. The lower branches have been pruned off, and some of the upper ones brought down nearly to the stem, which gives the whole plant a very fine appearance. The leading branches have been shortened in twice ; and the circumference of the extreme branches is now 32 ft. ; many of the leaves are 16 in. long, and 5½ in. wide. Had the plant been planted in the centre of the house, it would have reached the highest part of the roof, which is 23 ft. — *John Sharman, Gardener to Sir John C. Thorold, Bart. Syston Park, near Grantham, Oct. 16. 1834.*

We received several of the fruit, which are small cylindrical bodies, about half an inch long, and a quarter of an inch in diameter, terminating abruptly at both ends, with a rough surface of a greenish brown colour. In no point of view can they be considered as ornamental. The tree from which they were taken, must, however, be one of the finest objects of the kind in the country. We have often wished for some description of the gardens at Syston Park, and should be glad if our correspondent would supply this desideratum, and also let us have what facts he can supply as to hardy trees, for our *Arboretum Britannicum*. — *Cond.*

Magnòlia grandiflora, in a garden adjoining Mrs. Burt's at Twickenham, has attained the height of 24 ft. as a standard, with a trunk 9 in. in diameter at a

foot from the ground. It stands on a lawn, and never receives any protection. — *J. T. B. Oct. 25. 1834.*

Catalpa syriaca, in the same garden, is 32 ft. high, with a trunk 26½ in. in diameter. It flowers magnificently every year, and sometimes ripens seeds. — *Idem.*

Salisbùria adiantifolia has attained a great size in the garden of Mrs. M'Murdo, at Hackney. — *G. H. Dec. 6. 1834.*

Robínia hispida trained against a Wall. — It is too well known to most growers of this most beautiful shrub, that a puff of wind often takes off branches of some years' growth in a minute. To prevent this, an amateur at Bury St. Edmunds, planted a young one on the east front of his dwelling-house, in 1822, which he carefully trained against the wall. It is now 13 ft. high, and about 4½ ft. wide, and has been, for several springs, annually covered with beautiful blossoms. Mentioning the *Robínia*, reminds me that the Bury Botanic Garden contains a very beautiful species of this genus, at present very scarce about this part of the country, but which deserves to be generally known and universally cultivated. It was received, about three years and a half since, from Mr. Knight's Exotic Nursery, King's Road, Chelsea, under the name of *R. grandiflora*. It is nearly allied to *R. hispida*, but it flowers about a month earlier in the spring; the flowers are rather paler and larger; and they are so abundant, that we were obliged to prop the branches, last spring, to prevent them being broken down. This, no doubt, would also do admirably against a wall. — *Henry Turner, Botanic Garden, Bury St. Edmunds, Dec. 4. 1834.*

Ribes sanguineum is another beautiful and early-flowering shrub, which flowered beautifully on a south wall, in this garden, six weeks last spring; while those that stood in the borders were very much injured by the late frosts, and scarcely opened their blossoms. — *Idem.*

The Cork Tree (Quercus Sùber.) — A handsome specimen of this interesting tree, has been removed from the old Botanic Garden at Bury St. Edmunds, to the Abbey Grounds; it was planted from a small garden-pot fourteen years since, and its suberose, or corky bark, is already visible. (*Bury and Norwich Post.*)

Brugmánsia suaveolens. — I herewith forward you an account of a plant which will far surpass any I have heard of or seen described. It is 17 ft. high, and 45 ft. in circumference; the trunk, at the surface of the soil, is 18 in. in circumference, and at 4 ft. from the ground, where it begins to branch off, 13 in. It has, at this time, upwards of 600 blossoms fully expanded, and a great many unexpanded; the flowers average 1 ft. long, and 8 in. in diameter; and their beauty and fragrance are beyond conception. The plant occupies the centre of a circular conservatory; and Mr. Spong, the gardener (with whose permission I write this), informs me that it was planted there when about 5 ft. high, seven years ago, in a mixture of loam, peat, and vegetable mould. It has flowered equally well for the last four years. The following is an extract from the *Sherborne Journal* of July, 1831. The editor, in noticing the meeting of the Dorset Horticultural Society, says: — "While on the subject of horticulture, we would recommend to connoisseurs a ride to Lewiston House, in this county (Dorsetshire), the seat of R. Gordon, Esq. M.P., for the purpose of seeing a magnificent specimen of the *Datura arborea* which is now in full blossom. It is about 10 ft. in height, 40 ft. in circumference, and exhibits, we should think, at least 400 flowers. This plant is a native of Peru. It was turned out of a large pot, about four years since, into its present situation, the conservatory. Not only would we invite the attention of the horticulturist to this plant, but also to the pleasure-grounds of Lewiston, so tastefully laid out, and in such admirable order as we have rarely witnessed. Although the honourable possessor of them may recommend reform in other places [alluding, we suppose, to Mr. Gordon's exertions as chairman of the committee for enquiring into the affairs of the London Horticultural Society, in 1830 (see VI. 235.)], he can scarcely wish for any here. The gardens in-

clude a space of nearly fifteen acres, and are in the highest state of preservation and beauty." — *H. C. Ogle, Under-Gardener in Lewiston Gardens, near Sherborne.*

The Pomegranate. — One of these beautiful shrubs has this year produced the extraordinary number of thirty full-grown and nearly ripe fruit in the garden of Captain Conran, in Bury St. Edmunds. It is trained in a south aspect, on the front of the dwelling-house, without any artificial heat. (*Ibid.*) A tree against a house at Kensington, has now, Dec. 8. above a dozen fruit on it, which have a very fine appearance. *Cond.*

Eriobótrya japonica, the Japan quince, has ripened fruit against a house, in Earl's Court, Brompton. — *A. S. Exotic Nursery, Oct. 2. 1834.*

The Leaves and Fruit of a Sweetwater Grape, the former of extraordinary size, have been sent us from the Ranger's Lodge, Blackheath, the seat of the Princess Sophia of Gloucester, by her Royal Highness's gardener, Mr. Baskett. The leaves were woolly, and measured 1 ft. 2 in. by 1 ft., and the petiole was 7 in. in length. The fruit was small, as is generally the case with vines and other fruit trees that have the leaves larger than the average size; witness the tobacco-leaved cherry, or cherry of four to the pound, which has enormous leaves, and fruit smaller than geans. This sweetwater grape is considered by some as the Dutch variety.

Apples. — A Nonsuch, grown in the garden of Capt. Carter, at Richmond, in Yorkshire, measured $11\frac{1}{2}$ in. in circumference; and a Hawthornden, in the same garden, 11 in. (*Newcastle Courant, Sept. 6. 1834.*)

Preservation of dried Sweet Herbs. — Mr. Lindsey, gardener to the Duke of Devonshire at Chiswick, has made a great improvement in the mode of preserving dried sweet herbs; such as thyme, marjoram, savory, sage, &c. After drying them in the usual manner in the shade, he puts each sort into a small box, 8 in. or 10 in. long, by 5 in. or 6 in. broad, and 6 in. or 8 in. deep; and, by means of boards of the size of the interior length and width of the box, and a screw-press, he presses the herbs into cakes, or little trusses, about 8 in. long, by 5 in. wide, and 2 in. thick. These are afterwards carefully wrapped up in paper; and, being kept in a dry place, are found to retain their aroma, in as perfect a state as when they were put in the press, for at least three years, which is the extent of Mr. Lindsey's experience. Mr. Lindsey, who is curious in medicinal plants, and administers them for various diseases, preserves them in exactly the same manner as the sweet herbs. It is so excellent a method, that it ought to be adopted by all gardeners without exception. In many places, sweet herbs are hung up in the back sheds, and not only lose their flavour by evaporation, but become covered with dust.

Large Cucumbers. — The account given by Mr. Cuthill (X. 455.) of a large cucumber which he had grown at Fulham, reminded me of a cucumber plant which I had seen in the garden of Dykes Alexander, Esq., of Ipswich, in the former part of the last summer. This plant was grown by Mr. Smith, with various other plants, according to the system recommended by him in his *Treatise* on that subject [reviewed IX. 692.]. At the time I saw the plant, it entirely filled a large three-light frame, and was bearing an immense quantity of fruit, which, for colour, uniformity of size, length, and solidity, exceeded anything I ever before saw. Half a dozen of these fruit I measured, and found their lengths to be as follows: — 2 ft. $1\frac{3}{4}$ in., 1 ft. $11\frac{1}{2}$ in., 1 ft. 10 in., 1 ft. 10 in., 1 ft. 9 in., 1 ft. $8\frac{1}{2}$ in. Having been for several years under the tuition of a very justly celebrated grower, Mr. Joseph Hugman, the sight of a cucumber plant with a stem as large as a tolerably sized walking-stick, and with leaves 18 in. or 20 in. in diameter, and also producing two or three fruit, each measuring 1 ft. 8 in. in length, would have been nothing new to me; but the sight of such an immense weight of fruit on a single plant, which, notwithstanding, still retained its vigour, was both novel and surprising; and the more so, as the two longest fruits, the first and second, were both produced

on one vine, and within very little more than 1 ft. of each other. — *John Hines. Ipswich, Oct. 20. 1834.*

The largest Gooseberries grown in Lancashire, in 1834, were as follow:—
Reds: Wonderful, 27 dwts. 8 grs.; Lion, 26 dwts. 9 grs.; Companion, 26 dwts.; Briton 25 dwts. 4 grs.; London, 24 dwts. 17 grs.; Atlas, 23 dwts. 15 grs.
Yellows: Duckwing, 24 dwts.; Gunner, 23 dwts. 11 grs.; Bunker's Hill, 23 dwts. 7 grs.; Teaser, 23 dwts.; Leader, 23 dwts.; Twister, 21 dwts. 12 grs.; China orange, 21 dwts. 10 grs. *Greens:* Providence, 25 dwts. 9 grs.; Peacock, 24 dwts.; Overall, 22 dwts. 3 grs.; Troubler, 21 dwts. 17 grs.; Thumper, 21 dwts. 11 grs.; Angler, 20 dwts. 19 grs.; Bumper, 20 dwts. 17 grs. *Whites:* Eagle, 25 dwts. 22 grs.; Lily of the valley, 23 dwts. 18 grs.; Fleur-de-lis, 22 dwts. 23 grs.; Moreton lass, 22 dwts. 13 grs.; Tally ho, 22 dwts.; Delamere, 21 dwts. 22 grs.; La Valentine, 21 dwts. 9 grs. *The Seedlings* are few this year: 6 reds, 4 whites, 3 greens, and 1 yellow; the weights of none of which are very great. Mr. J. Bratterton had a seedling at Nantwich show, July 24., which weighed 26 dwts. 4 grs. — *M. Saul. Sulyard Street, Lancaster, Nov. 5. 1834.*

The Scarlet Trefoil (*Trifolium incarnatum*), which we first mentioned in this Magazine, in 1829, and which we have subsequently noticed as in cultivation in the neighbourhood of Woking, Kingston, and on the late Duke of Gloucester's farm at Bagshot, we are informed, by the Rev. Matthew Harrison, is extensively cultivated, and much approved of, in the neighbourhood of Basingstoke. "Cattle are extremely fond of it; farm horses, during their spring work, may be kept in the highest condition upon it; and, after affording abundant feed, the land may be prepared in time for turnips or barley." — *Matthew Harrison. Church Oakley, near Basingstoke, Oct. 10. 1834.*

SCOTLAND.

Monymusk, in Aberdeenshire, the Property of the Grant Family. — The accompanying extracts, which I made from original papers preserved at Monymusk, in Aberdeenshire, the residence of Robert Grant, Esq. (a worthy descendant of one of the first and most active improvers of that part of Scotland), showing the state of the district in the early part of the eighteenth century, may be interesting; especially to those of your readers who know what a striking contrast to the following account is presented by the present improved and flourishing condition of that part of the country.

Extracted from a commonplace book of the first Sir Archibald Grant, of Monymusk, in Aberdeenshire. — In 1715, Sir Archibald says, "by the indulgence of a very worthy father," he was allowed, though then very young, to begin to inclose and plant and provide and prepare nurseries. "At that time, there was not one acre upon the whole estate inclosed, nor any timber upon it, but a few elm, sycamore, and ash, about a small kitchen-garden adjoining to the house, and some straggling trees at some of the farmyards, with a small copse wood, not inclosed, and dwarfish, and browsed by sheep and cattle. All the farms ill disposed, and mixed, different persons having alternate ridges; not one wheel carriage on the estate, nor, indeed, any one road that would allow it. The house was an old castle with battlements, and six different roofs of various heights and directions, confusedly and inconveniently combined, and all rotten; with two wings, more modern, of two stories only, the half of windows of the higher rising above the roofs; with granaries, stables, and houses for all cattle and all the vermine attending them close adjoining; and with the heath and muir reaching in angles or *goushets* [gussets, or gores] to the gates; and much heath near, and what land near was in culture, belonged to the farms, by which their cattle and dung were always at the door; the whole land rugged and uneven, and full of stones, many of them very large; and all the ridges crooked in shape of an S, and very high, and full of noxious weeds, and poor, being worn out by culture without

manure or tillage. Much of the land and muir near the house poor and boggy. The people poor, ignorant, and slothful, and ingrained enemies to planting, inclosing, or any improvements, or cleanness; no keeping [breeding] of sheep or cattle, or roads [no regular roads kept, but the most direct line from one point to another taken], but four months, when oats and bear, which was the only sorts of their grain, was on the ground. The farm-houses, and even corn mills, and manse and school, all poor dirty huts, pulled to pieces for manure, or fell of themselves, almost each alternate year."

"In my early days, soon after the Union, husbandry and manufactures were in low state. Turneps in fields, for cattle, by Earle of Rothes and very few others, were wondered at. Wheat was almost confined to East Lothian. Inclosures few, and planting very little. No repair of roads; all bad, and very few wheel carriages. No coach, chariot, or chaise, and few carts beneath Tay. In 1720, I could not, in chariot, get my wife from Aberdeen to Monymusk. Coll. Middleton the first who used carts or waggons there; and he and I the first beneath Tay who had hay, except very little at Gordon Castle. Mr. Lockhart of Carnwath, author of *Memoirs*, the first that attempted raising or feeding cattle to size. Aberdeen was then poor and small, having some Dutch and French trade by salmon and stockings, and serges, and plaiding, had first use of tea, then very scarce and little used at Edinburgh, supplied Edinburgh with French wines. Table and body linen seldom shifted, and but coarse, except for extraordinary occasions. Moveing necks and sleeves of better kinds being then used by best. Many wooden, mud, and thatched houses within gates of Edinburgh, Glasgow, and Aberdeen; few others without gates. All improvements of security, husbandry, manufactures, commerce, or police are since 1707; with which literature, in any extensive degree, except school jargon, hath kept pace."

Such was the state of Aberdeenshire generally in the beginning of the eighteenth century; but such it happily no longer is; for, greatly owing to the exertions of the worthy and active writer of these notices, and of others who followed the good example which he had set, this county is now scarcely behind any part of the kingdom in the march of improvement.

On the property of Monymusk there are now, instead of a few trees only, several thousand acres of flourishing woods. The houses now are all substantially constructed of stone, and certainly not likely to be soon "pulled to pieces for manure, or to fall of themselves." The roads are among the best in the country; and the people certainly no longer "ingrained enemies to any improvements."

For a specimen of the cattle now bred in that district, I would refer your readers to p. 104, 105. of the *Treatise on Cattle*, published by the Society for the Diffusion of Useful Knowledge, where is a good portrait and account of a very beautiful ox which Lord Kintore, who has been very successful in breeding sheep and cattle, showed me, in his farmyard at Keith Hall, near Monymusk, in 1833. — *W. C. Trevelyan. Wallington, Oct. 5. 1834.*

We have sent a Return Paper to Monymusk, and hope to receive ample information respecting the numerous fine old trees that must now be standing on that estate. — *Cond.*

The Pepperwell Oak, at Melhven Castle, near Perth, is the largest tree of the kind in Scotland. It must have been of some consequence in 1722, as 100 marks were then offered for it. In 1796 it increased $14\frac{1}{2}$ ft. in circumference. It now measures 18 ft., and contains 700 cubic feet of timber. The diameter of the space occupied by its branches is about 100 ft.

The largest Cedar in Scotland is at Gray House, near Dundee; the largest beech, at Newbattle Abbey, Mid-Lothian; and the largest plane [sycamore], at Kippencross, near Dumblane. (*Dundee Chronicle*, July, 1834.) We should be glad to receive the particulars of these and other such trees, in every part of Scotland; for though we have sent a number of Return Papers to our friends in that country, it is not likely that we have hit upon one tithe of the estates from which we ought to have sought for information. — *Cond.*

IRELAND.

The Horticultural Society of Ireland intends placing medals at the disposal of the provincial Horticultural Societies throughout the kingdom, to be awarded to local merit of every kind connected with horticulture. (*Saunders's News Letter*, as quoted in the *Irish Farmer's and Gardener's Magazine*.)

The packets of Vittoria Wheat, received through you from Dr. Hamilton of Plymouth, I sent to their respective destinations; that for myself, I divided into three equal portions, one whereof I sent to R. Latouche, Esq., of Kilcullen, one of our most eminent agriculturists; the second, to our common friend Mr. Mackay of Trinity College Botanic Garden; and the third I reserved for making experiments with myself. — *R. Mallet. Dublin, Oct. 30.*

There are a great many foreign Trees in Ireland, which you ought certainly to have notices of, for your *Arboretum Britannicum*. Perhaps there is not an equal surface of country in the whole of Europe, where the vegetable productions of so many climates will grow and thrive. I do not say that in Ireland fruits can be brought to the same degree of perfection as they can in France and Italy; but I do say that all the trees and shrubs of France and Italy, most, perhaps all, of those of Spain and Greece, all those of North America, the elevated regions of South America and Asia, of Van Diemen's Land, and most of those of New Holland, will grow and thrive as well as in their native countries, throughout Ireland, from Belfast to Cork and Killarney, always, however, excepting localities much elevated above the level of the sea. In proof of what I assert, I might refer to various volumes of your *Gardener's Magazine*, it which it has been stated that the myrtle, and different species of acacia, have grown for many years in the neighbourhood of Belfast, without any protection; the same, and other exotic trees and shrubs, have stood the winter in Mr. Mallet's garden near Dublin; and pelargoniums and other Cape plants, together with the New Zealand flax, thrive all the year in the open ground, in the neighbourhood of Cork. Whenever Ireland shall be thoroughly civilised, and a little more wealthy, it will become the arboretum, or rather the botanic garden, not only of Europe, but of the whole world. The present landed proprietors know little of the botanical enjoyments which they might possess, and which undoubtedly will be possessed by their posterity. In the meantime, you will do them good, by forcibly directing their attention to the subject. I hope you will be assisted by all the principal planters of foreign trees in Ireland; and, in particular, Lord Oriel, Mr. Bourne, Mr. West, and a number of other noblemen and gentlemen that might be named, will supply you with lists and dimensions, &c., of their trees. I have a good deal more to say on this subject, but I shall reserve it for another letter. — *J. B. Belfast, Nov. 20. 1834.*

We have sent several return papers to Ireland, and have received some of them back again, particularly one from Mr. Nevin, and another from Wm. George, gardener to the Earl of Longford, replete with information. Nevertheless, as at present we know very little of the country seats of Ireland, we shall feel extremely obliged to such of our readers and correspondents as will take the trouble of sending us lists of the parties to whom we ought to apply. Or, as we have sent a few of our return papers to our friend Mr. Murphy, one of the editors of the *Irish Farmer's and Gardener's Magazine*, application may be made to him, or to his publisher, Mr. William Curry Junr. Dublin, for a paper to fill up. Intended contributors will bear in mind, that information respecting magnolias, tulip trees, tilias, acers, and horsechestnuts, ought to be sent without delay, as indicated in X. 581. — *Cond.*

ART. III. Retrospective Criticism.

MR. CALVERT'S Nursery at Rouen. — I have read, in X. 574., an extract of a letter from Mr. Calvert, denying the truth of the remarks I made on his nursery at Trianon, in April last; and I feel it due to you, and the readers of this Magazine, to say a few words in reply. Mr. Calvert says he dis-

charged me about six years ago; but it happens that I, of my own accord, left him, because I could neither obtain wages for myself, nor the means of carrying on the concern: and, indeed, I was obliged to threaten him with an appeal to the laws, before I could obtain the balance due to me. I will not waste more time on the affidavits of four men (who are, of course, in a great degree, at the mercy of Mr. Calvert), than to inform you that (as far as my recollection serves me) two of them, Vincent and Mallet, can neither read nor write; the other two I know not. I certainly did call in Mallet, who worked some years under me, and whom I always found a very obliging man. He was passing the door of the café in which I was; and I did not think it any great crime to bestow on him a glass of *eau de vie*. I can tell Mr. Calvert, for his own private satisfaction, that I did see through his nursery in April last; and it would not be difficult for me to inform him with whom: but I should be sorry to expose any one of his poor workmen to the tender mercies of such a master. To bring forward as evidence the statements of newspapers, which doubtless he had *promised* to pay for puffing his nursery, is too gross an insult to the understandings of your readers to require any comment from me. I have not the pleasure of knowing Mr. John Salter of Shepherd's Bush, nor was I even aware that such a gentleman was in existence; but, admitting that his evidence is correct, namely, that the dahlias at Trianon were the best that he (Mr. Salter) had ever seen, I do not consider that as any proof of their beauty: and Mr. Salter, either not knowing (as I should suppose), or not having seen, any of the other beauties or rarities in the Trianon Nursery, has wisely refrained from venturing upon the hard names of any other plant except the dahlias, of which a tolerably good collection may now be seen in almost every garden in the three kingdoms. In conclusion, I will merely remark, that, had I been aware that the feelings of Mr. Calvert were so tender on the subject of his nursery, I should certainly have left him and the Trianon to that oblivion which they so justly merit. — *W. Garvie. Clapton Nursery, Nov. 24. 1834.*

Mr. Gilpin's Hints, &c. — In your review of Mr. Gilpin's work (VIII. 701.), I perfectly agree with you that a want of information respecting the trees and shrubs essential, in these times, to form interesting masses, is apparent. Knowing Mr. Gilpin, and having carried his designs into effect, on an extensive scale, I cannot but here draw your attention to a passage in Mr. Smith's article (X. 525.), where he attempts to criticise, not only Mr. Gilpin, but even you, who have so highly approved of Mr. Gilpin's hints as to state, "we know not that there is a single hint, as far as these hints go, to which we would object;" and, instead of condemning the indentations which give interest and variety to the groups, as being "laboriously twisted and turned about," you observe, "we entirely sympathise with the author in his defence of the irregular outlines of plantations," &c. During the past summer, I have had opportunities of witnessing, in different parts of England and Scotland, the exercise of Mr. Gilpin's abilities; which, in every instance, was in conformity with the principles which his book so successfully develops, and which you so highly commend. Such observations as that of Mr. Smith, above alluded to, have a tendency to bring contempt and ridicule on professional men, and on all books illustrative of their principles. My opinion is, that such crude remarks ought not to pass unnoticed. — *R. Glendinning, Gardener to Lord Rolle. Biclou Gardens, near Exeter, Nov. 12. 1834.*

Giving Air to Hotbed Frames. (X. 423.) — Mr. Garvie, in his very interesting tour, takes notice of a mode of giving air by means of an iron rod attached to each light. In the garden of Mr. Macdonald, at St. Martin's, in Perthshire, the outward opening ventilators in the front parapet of his vineries are opened and shut by bent iron rods jointed to the inside of the ventilators, and to projecting arms which are fastened to an iron rod that goes the whole length of the parapet; and are provided at one end with a segment of a cog-wheel acted on by a small pinion, provided with a handle that takes off at pleasure. By turning this handle, you open or shut the whole, at once; and

have it in your power to regulate the extent of the opening with the utmost nicety. The ventilators at top, in the back wall, are moved by a similar contrivance. I am not aware whether Mr. Neil, Mr. Macdonald's gardener, be the inventor of the simple apparatus above described or not; but all the first expense must have been trifling: and, when we contrast the ease and precision with which a man, by one movement, opens or shuts the whole, with a mode requiring as many efforts as there are ventilators to be moved, it seems self-evident that this, or some similar contrivance, ought in all cases to be adopted: the saving of time would soon compensate for the first outlay. — *G. M. Elliott. Coul Gardens, Oct. 16. 1834.*

Mr. Toward's Account of the Moss House at Bagshot (X. 532.) is very interesting to me; but the design of the house, I think, might be improved. The slates struck me, when I saw it, as producing a bad effect; and the roof should have been concealed somehow. The arcade in front is also poor. Mr. Toward has, however, conferred a benefit on summer-house building, by his ingenious method of arranging moss: it is much more simple than I thought, judging from the effect produced. — *S. S. Nov. 7. 1834.*

Arboretum Britannicum. — Proprietors who form extensive plantations, and those that “stick in plants singly here and there, as the maggot bites;” landscape-gardeners, nurserymen, and gardeners in common; in truth, every man who feels an interest in, who can look at, or derive pleasure from trees and shrubs, must thank you for the effort you are making to lay before them a work like your proposed *Arboretum Britannicum*. Nothing, I am convinced, is so much wanted as a book of this kind, to bring into repute the rarer trees and shrubs. During the preparation of this most desirable work, I trust the men of Devon will not forget that they have a duty to perform; and that the magnolias, cork trees, and ilices of Mamhead; the magnolias, cypresses, and camellias of Powderham and Killerton; the magnolias, camellias, and erio-botryas, &c. of Luscombe; the tulip trees of Mount Edgecombe, &c. &c., will give evidence of our superior climate, and appear conspicuous objects in your *Arboretum Britannicum*. In hastily embodying these remarks, I only regret that I cannot more effectually further the object you have in view. However, there is here a single red camellia, planted out on the turf about sixteen years ago, which has not, I believe, been protected for the last twelve years. [The figure sent of this camellia is kept for our *Fruticetum Britannicum*.] Bicton Gardens are situated about $2\frac{1}{2}$ miles from the sea, and are 83 ft. above its level; the soil and subsoil are chiefly sand. The branches of this single camellia occupy a space 12 ft. 6 in. in diameter, and it is 9 ft. 6 in. high; it has endured a temperature of 10° Fahr., which was the maximum of cold here, during the five years that I have kept a meteorological register. About twenty months since, I planted out several double varieties of camellia, which flowered profusely last winter, and are now covered with blossom-buds. The single red seldom blooms freely; but this may be overcome by engrafting it either on its own stock, or with a double variety. This example proves the single camellia at least to be perfectly hardy; and, as an evergreen shrub, what can be more desirable? Its compact growth, and its dark green shining foliage, besides the circumstance that it will thrive under the drip of trees better than most other evergreens, and the facility with which it can be propagated, bid fair to cause it to be generally used in shrubberies, or in masses as an undergrowth, as recommended by Mr. Gilpin. — *R. Glendinning. Bicton Gardens, Nov. 12. 1834.*

ART. IV. *Queries and Answers.*

Has a Plant been named after Dr. Turton, the celebrated translator of the works of Linnæus? I am not aware that there has; but perhaps you, or some of your readers, can inform me. The translation of the works of Linnæus certainly had a powerful influence in giving a stimulus to the study of natural history in Britain; and, if a plant has not yet been named after this

veteran naturalist, surely some modern botanist, who has the distribution of generic honours, will not forget him. — *W. C. D. Bristol, Aug. 9. 1834.*

What is the Natural History of the Cone-like Excrescence so common on the Oak? — It is the work of some species of *Cynips*, I suppose. One thing puzzles me: on opening some of these excrescences, I occasionally find what evidently appears to be a minute, abortive, embryo acorn, as if this excrescence would have been an acorn, had it not been blighted and converted into what we now see instead; and yet these cone-like excrescences cannot be abortive acorns, because they oftentimes occur where acorns never would; as, for example, on the current year's shoots of oak stools that have been felled in the winter. I have young oaks that are covered over with these cones. Both kinds of the common oak are subject to this disease. — *W. T. B.*

As the best Method of preserving Celery through the Winter (X. 577.), I beg leave to submit the following, which I have practised for several years with very good success: — Get up the celery on a fine dry day before it is injured by frost, cut off the leaves and roots, and lay it in a dry airy place for a few days; then remove it to a cool cellar, where it will be quite secure from frost, and pack it up with sand, putting layers of celery and of sand alternately. Celery thus preserved will continue perfectly sound, sweet, and crisp all through the winter. — *M. F. November 8. 1834.*

Magnolia grandiflora exoniensis. — In Miller's time there was a celebrated tree at Exmouth, in Devonshire, belonging to Sir John Colliton, which Miller seems to have considered as one of the oldest in England. Notwithstanding a number of enquiries made in different directions, we have been unable to ascertain the history of this tree altogether to our satisfaction; whether it is still alive, or when it died. If our correspondent "Mentor" is still in Exmouth, we should be glad to hear from him on this subject. We should, also, as we stated in a former Number, be very greatly obliged for notices of magnolias, tulip trees, lime trees, acers, and horsechestnuts, from every part of the country; the species composing these genera, as we have indicated (X. 581.), being intended to be included in the first three numbers of our *Arboretum Britannicum*. — *Cond.*

The Cabbage Tree of Lapland. (X. 466.) — Five or six years ago, the late M. Madiot, who was head gardener at the Botanic Garden of Lyons, made much noise about the Chou arbre de Laponie, which, from the similarity of the names, must be the plant Mr. John Brown means. M. Madiot represented this plant as standing any frost, and lasting not less than five, six, or even ten years, &c. After a fair trial, however, it was found to be the same thing, or very nearly so, as the Chou cavalier, or Grand chou à vache of our western provinces (what you call, I think, Anjou kale); and, if any difference did exist, it could hardly be considered even as a subvariety, but rather as a choice and vigorous stock of that sort. It was generally found to live two years, or accidentally a few more, as is the case with the common Chou cavalier. Severe winters, such as that of 1830, destroyed both equally; it proved, in fact, not more hardy than the rutabaga, and much less so than the Chou frisé du nord (your Scotch kale), especially the purple kale, which stood that winter, and some others equally cold, without injury. From this explanation, I conclude that the Lapland tree cabbage (if that name must be preserved) will not answer Mr. John Brown's purpose; neither will, I think, any of the tall-growing, or even of the dwarf, kales; their whole tribe requiring as much, if not more, manure than is necessary for growing turnips. As I happen, however, to possess some seed of the Madiot breed, the descendants of a stock I originally got from him, I will send you a paper by the first opportunity, that you may procure your correspondent the satisfaction of personal experiment. — *Vilmorin. Paris, Oct. 30. 1834.*

We have since received a packet of seeds from M. Vilmorin, of which we sent some to Mr. Brown, and distributed the remainder among our agricultural friends. The results, we trust, they will enable us to lay before our readers. — *Cond.*

ART. V. Covent Garden Market.

<i>The Cabbage Tribe.</i>		From			To					From			To		
		£	s.	d.	£	s.	d.			£	s.	d.	£	s.	d.
Cabbage, per dozen :		0	0	6	0	0	9	Tarragon, per dozen bunches		0	4	0	0	4	0
White - - -		0	1	0	0	2	0	Fennel, per dozen bunches		0	1	6	0	0	0
Red - - -		0	1	0	0	1	6	Thyme, per dozen bunches		0	3	0	0	0	0
Plants or Coleworts - -		0	0	6	0	0	10	Sage, per dozen bunches -		0	2	0	0	0	0
Savoy, per dozen - - -		0	0	6	0	0	0	Mint, per dozen bunches -		0	1	6	0	0	0
Brussels Sprouts, per $\frac{1}{2}$ sieve		0	2	0	0	0	0	Peppermint, dry, per doz. bun.		0	1	0	0	0	0
Cauliflowers - - -		0	1	6	0	4	0	Marjoram, dry, per dozen bun.		0	1	0	0	0	0
Broccoli, per bunch :								Savory, per dozen bunches -		0	2	0	0	0	0
White - - -		0	1	6	0	2	6	Basil, dry, per dozen bunches		0	1	3	0	0	0
Purple - - -		0	0	6	0	1	0	Rosemary, per dozen bunches		0	4	0	0	0	0
Cape - - -		0	0	6	0	1	0	Lavender, dry, per dozen bun.		0	2	0	0	0	0
								Tansy, per dozen bunches -		0	1	0	0	0	0
<i>Tubers and Roots.</i>															
Potatoes -	{ per ton	2	10	0	4	0	0	<i>Stalks and Fruits for Tarts, Pickling, &c.</i>							
	{ per cwt.	0	2	6	0	3	0								
	{ per bushel	0	1	6	0	0	0	Tomatoes, per sieve -		0	1	6	0	2	6
Kidney - - -		0	1	9	0	2	0	Capsicums, per hundred -		0	1	6	0	2	0
Scotch - - -		0	1	6	0	1	9	<i>Edible Fungi and Fuci.</i>							
Jerusalem Artichokes, per								Mushrooms, per pottle -		0	0	9	0	1	0
half sieve - - -		0	1	0	0	1	3	Morels, per pound - -		1	4	0	0	0	0
Turnips, White, per bunch		0	0	1	0	0	2	Truffles, per pound :							
Carrots, per bunch - -		0	0	3	0	0	4	English, fresh - - -		0	3	6	0	0	0
Parsneps, per dozen - -		0	0	9	0	1	0	Foreign, dry - - -		0	14	0	0	0	0
Red Beet, per dozen - -		0	1	0	0	1	3	<i>Fruits.</i>							
Skirret, per bunch - -		0	1	6	0	2	0	Apples, Dessert, per bushel :							
Scorzoner, per bunch - -		0	1	6	0	2	0	Nonpareils, per bushel -		0	12	0	0	15	0
Salsify, per bunch - -		0	1	6	0	2	0	Pearmains - - -		0	7	0	0	10	0
Horse-radish, per bundle -		0	1	6	0	4	0	Golden Pippins - - -		0	8	0	1	10	0
Radishes :								Rennet delires - - -		0	0	0	0	12	0
Red, per dozen hands (24		0	0	8	0	1	0	Baking, per bushel - -		0	2	6	0	5	0
to 30 each) - - -		0	0	8	0	1	0	Pears, Dessert :							
Turnip, white, per bunch		0	0	1 $\frac{1}{2}$	0	0	2	Chaumontelles, per dozen		0	4	0	0	12	0
<i>The Spinach Tribe.</i>															
Spinach { per sieve -		0	1	0	0	1	6	Glout Morceau - - -		0	3	0	0	6	0
	{ per half sieve -	0	0	6	0	0	9	St. Germain - - -		0	3	0	0	6	0
Sorrel, per half sieve - -		0	1	0	0	1	3	Baking, per half sieve -		0	5	0	0	7	0
<i>The Onion Tribe.</i>															
Onions, old, per bushel -		0	1	9	0	2	6	Quinces { per half sieve -		0	5	0	0	6	0
For pickling, per half sieve		0	2	0	0	3	6			0	1	0	0	2	0
Green (Ciboules), per bunch		0	0	2	0	0	3	Medlars, per half sieve -		0	3	6	0	7	0
Garlic, per pound - - -		0	0	6	0	0	8	Almonds, per peck - -		0	7	0	0	8	0
Shallots, per pound - -		0	0	6	0	0	9	Raspberries, red, per pottle		0	2	6	0	0	0
<i>Asparaginous Plants,</i>															
<i>Salads, &c.</i>															
Asparagus, forced, per 100		0	5	0	0	6	0	Strawberries, Myatt's, per							
Sea-kale, per punnet - -		0	1	0	0	2	6	} punnet - -		0	3	6	0	5	0
Lettuce, per score :								Chestnuts, per peck :							
Cos - - -		0	0	9	0	1	3	English - - -		0	2	0	0	4	0
Cabbage - - -		0	0	4	0	0	6	Foreign - - -		0	2	6	0	6	0
Endive, per score - - -		0	1	0	0	1	6	Filberts, English, per 100 lbs.		7	10	0	0	0	0
Celery, per bundle (12 to 15)		0	0	6	0	1	6	Pine-apples, per pound -		0	3	6	0	7	0
Small Salads, per punnet -		0	0	2	0	0	0	Grapes, per pound :							
Watercress, per dozen small								Hot-house - - -		0	3	6	0	0	0
} bunches - -		0	0	4	0	0	0	Hamburgh, Black - -		0	1	3	0	1	6
<i>Pot and Sweet Herbs.</i>															
Parsley, per half sieve -		0	1	0	0	1	6	White - - -		0	0	9	0	1	3
								Portugal - - -		0	0	10	0	1	0
								Oranges { per dozen - -		0	0	8	0	2	0
								} per hundred - -		0	3	6	0	12	0
								Lemons { per dozen - -		0	0	9	0	2	0
								} per hundred - -		0	6	0	0	14	0
								Brazil Nuts, per bushel -		0	14	0	0	16	0
								Spanish Nuts, per peck -		0	5	0	0	0	0
								Barcelona Nuts, per peck -		0	6	0	0	0	0

Observations.—The weather for the season being particularly open and favourable to the continued growth of vegetables, we have, to the present period, an excellent supply, which has been improved by the rain some time since; preceding which, from the prevalence of dry weather, our supplies had somewhat diminished, and prices, as you may observe on comparing the lists, a little improved; but to-day the supply is again more than equal to the demand, with a considerable decrease in value. Observations have appeared from time to time on the peculiarity of the season, in the country newspapers; as a remarkable instance, they quote the appearance of violets in the open air. For the last month or six weeks, we have had an abundant supply in bunches. I consider it to be the Russian violet of the gardens (a variety of the *Viola odorata*), which is the same as the *Violette de quatre saisons* of the French;

which, by a peculiar mode of culture, flowers several times in the season. On November 19. I observed a full pottle of raspberries; also several punnets of strawberries, which were abundantly furnished to the tables of several of the city corporate companies on the Lord Mayor's Day (November 9.). The raspberry was the old double-bearing variety, which, after all, is, I believe, quite a casualty. The strawberry was Myatt's new pine-apple variety; but its property of autumnal bearing requires confirmation. The supply of apples is abundant: as the season advances, they continue to arrive from more distant ports; as they will, from their better maturity, bear the carriage; but it is generally remarked that they do not keep well. Of pears we have comparatively none but what are imported. Quinces have been scarce; medlars not plentiful, but in moderate supply. Notwithstanding our general heavy crop of grapes, we have had a most abundant supply from Holland; three or four tons' weight per week during the last month. English chestnuts have been abundant, and of excellent quality; being well ripened by the continued fine weather. We have now an excellent supply of Spanish and French. From the general depression in the price of vegetables, the growers complain of heavy losses, which, in addition to the depressed state of market-gardening generally, makes their prospects very gloomy. Whether this state of things will be ameliorated by any change of circumstances, it is impossible to conjecture; but, without some material improvement, I am quite at a loss to imagine how the business can continue to be carried on. From the large capital that is now necessarily embarked in the carrying on of the horticulture of the neighbourhood of London, almost for its immediate supply, some steps should be taken to relieve it from the overwhelming difficulties with which it is threatened. This must be matter of serious consideration to the proprietors of the soil so occupied, or to the legislature, by some relief from such taxes as more immediately affect it. It must necessarily have the same fair claim to protection as any of the manufacturing interests, which from time to time claim from the government the reduction of some peculiar enactment which may affect their respective interests. — *G. C. Dec. 20. 1834.*

ART. VI. *The Metropolitan Society of Florists and Amateurs.*

THIS Society held, on Dec. 17., at the Crown and Anchor Tavern, in the Strand, their show of winter floricultural productions. Of these, a great number were brought together: potted plants in flower, from the stove, greenhouse, and hardy department; and potted hardy evergreen plants; gathered flowers, a good proportion of them of hardy kinds; and specimens of flower-painting. Most of these were disposed in a girdling bank around the magnificent room used, in this tavern, for public assemblies; the rest were placed in about three separate groups up its centre: the whole were, consequently, well displayed to inspection.

Of the general assemblage, Cape ericas and Chinese chrysanthemums were the more abundant subjects. To these may be added well nigh all the species of green-house plants which are known to flower at this season of the year: as some of the species of *E'pacris*, *Polýgala*, *Corræ'a*, *Grevillea*, *Lechenaúltia*, and numerous other genera. Several plants of the *Solànum Pseudo-Cápsicum* were ornamental in its orange fruit.

Of the less common species of plants in flower, we have noted the following: — *Lucúlia gratíssima*, Messrs. Henderson; a prize. *Cýpri-pèdium insigne*, with thirteen flowers all in perfection upon it, Messrs. Rollison; a prize. Two magnificent plants of *Crinum gigantèum*?, a selection of fine amaryllises, forced narcissuses, forced lilacs, *Caméllia Sweetii*, *Echevèria gibbiflora*, from Messrs. Adams and Durban, successors to the late Mr. Colvill; one or more prizes. *Cymbídium sinénse*, *Dendrobium Calceolària*, *E'pacris impréssa*,

Lucùlia gratíssima, *Polýspora axillàris*; *Pancràtium speciòsum*, delightfully fragrant; and twigs of *Eugènia myrtifolia*, beautiful in bearing pear-shaped crimson fruit: most or all of these seemed to be from Mr. Pratt, gardener to W. Harrison, Esq., Cheshunt. *Andrómeda floribúnda*, two compact plants, abounding in flower-buds; Mr. Glenny. *Priestlèya hirsùta*, Mr. Knight; a prize. *Strelitzia reginæ*, *Cròwea saligna*, *Erica Archeriana*, *Pancràtium undulatum*, *Billbergia fasciata*, *Neottia speciòsa*, in bud: these were from various persons. Chinese chrysanthemums, first prize to Mr. Redding; second to Messrs. Chandler, who had a prize for a selection of green-house plants. A collection of miscellaneous gathered flowers, Mr. Redding, a prize. A box of flowers of camellias, Mr. Smith. A box of flowers of heartseases, Mr. Mountjoy.

Specimens of flower-painting:—For groups of flowers: first prize to Mrs. Withers; subject, a group of flowers of pelargoniums: second prize to Mr. Alfred Chandler; subject, a group of various flowers. For single flowers: a prize to Mr. Wakeling; subjects, flowers of the kinds esteemed by florists.

A band of music attended and played at short intervals. The company, at the time we looked round (between three and four in the afternoon), was less numerous than such a treat ought to attract to it. — *J. D.*

ART. VII. Obituary.

DIED, Oct. 15., aged 62, *Walter William Capper, Esq.*, of Hanley Castle near Malvern. His physiological researches on the vine must be fresh in the recollection of our readers, and several other valuable articles from his pen have appeared in different volumes of this Magazine. One of Mr. Capper's sons, Charles Capper, Esq., an eminent engineer at Birmingham, is the author of several papers in our *Architectural Magazine*, and of a description, with engravings, of a steam-draining machine, in our *First additional Supplement to the Encyclopædia of Agriculture*.

Died, at the residence of Mr. Brown, Bedford Nursery, Hampstead Road, Nov. 3. 1834, in the twenty-fifth year of his age, *Mr. James Sherare*, gardener to Sir John Hay, Bart., of Kingsmeadows, having survived his worthy father little more than fourteen months. Mr. Sherare was a young man of great abilities, who, having been from his boyhood ardently devoted to the study of the sciences, had acquired a general knowledge of many, and intimate acquaintance with several, of them; which, with the powers he possessed of making all his knowledge bear upon his profession, caused his friends to look forward to him as one destined to act a conspicuous part in elucidating and improving the practices of his art. Of his general character and disposition it is unnecessary to speak, as the communications which, under different signatures, he sent to the *Gardener's Magazine* and other periodicals, prove that his love of science was not greater than his love of justice, his hatred of deception and oppression, and his ardent desire to elevate the condition of his fellow men. Being a great admirer of mechanics' institutions, he took an active part in the formation of one at Peebles, at which, last season, he delivered a course of lectures upon botany. His death will long be felt by all his acquaintances, and especially by those who had the benefit of his epistolary correspondence; and the writer of this can only express his hope that the removal of one whose sun of life was only rising may stimulate to greater activity those who are left, knowing not how soon they may also be called upon to give an account of their stewardship of those talents which have been committed to them — *R. F.*

THE
GARDENER'S MAGAZINE,
FEBRUARY, 1835.

ORIGINAL COMMUNICATIONS.

ART. I. *Notes on Gardens and Country Seats, visited, from July 27. to September 16., during a Tour through Part of Middlesex, Berkshire, Buckinghamshire, Oxfordshire, Wiltshire, Dorsetshire, Hampshire, Sussex, and Kent.* By the CONDUCTOR.

(Continued from Vol. X. p. 473.)

THE Grange, Alexander Baring, Esq. — August 19. The road to this place, over a country of downs, is dreary, and very uninteresting to a stranger. Andover, like an oasis in a desert, is a neat and clean town, affording a good and cheap inn (the White Hart); but there are several miserable heartless-looking villages between that place and the long approach which leads to the Grange. The house here, however, repays all the trouble; and we have not seen a mansion the external elevation of which pleased us so much, since we commenced our tour. The beauties of this place lie in a narrow winding valley, with a small stream in the bottom, which spreads into a broad expanse of water near the house. The latter is proudly situated on a steep bank, supported by a grand architectural terrace, and that again by a massive terrace of gravel and turf, with a third smaller terrace, of the same materials, below. The main body of the house is in the Doric style, with a portico at one end, and a loggia with square columns on each side, by Wilkins; with a secondary mass, and a conservatory in the Ionic style, by R. C. Cockerell. An elevation has been already given (I. fig. 11. p. 106.); but it is on so small a scale, that it gives no adequate idea of the simplicity, grandeur, and beauty of this mansion. Scarcely any picture, indeed, can do justice to it: its temple-like magnificence must be seen to be felt; and, indeed, it will repay any one who has a taste for architecture, to travel a hundred miles out of his way to see it. We shall never forget the first impression made on us by the Doric portico, when we saw it from the road to the kitchen-garden, on the bank forming the

opposite side of the valley. The Ionic conservatory is the finest thing of the kind in England; and, in our opinion, far surpasses those of Syon and of Alton Towers. Its characteristics are simplicity and grandeur. We do not know that we can find a fault with the house, unless it were that the chimney-shafts of the main body are not architectural enough; and that those of the addition by Mr. Cockerell are altogether concealed. This part contains the kitchens; and the roof being unseen as well as the chimney-shafts, the smoke appeared to us as if ascending from ruins, or from a fallen-in roof. This bad effect is, in our opinion, a sufficient argument why chimney-shafts should, in all cases, be shown; but if they are to be concealed in one part of a house, they ought to be concealed in every part of it, for the sake of unity of system. (See *Arch. Mag.*, II. 33.) There is also a petty little wooden excrescence to the entrance loggia, which conveys the idea of a porch to a London banker's counting-house, rather than the portico of a villa. There ought here, as in every large country villa, to have been a projecting portico to drive under, as at Bear Wood, and at Eastwell Park by Bonomi. Notwithstanding these trifling faults, and the alleged unsuitableness of the severity of the Doric order for a villa, we cannot help admiring the Grange as one of the noblest of British villas. The approach to the entrance front is through an avenue of lime trees, 100 ft. wide, and twice as many years old; having, as we are informed, been planted in the time of Inigo Jones, who built the first house, nearly on the present site, for Lord Chancellor Hyde. The road has the great fault of descending to the house; but, as the fall is not above 3 ft., it might easily be remedied by lowering the surface. An avenue, to maintain a character of art, should not only be in a straight direction, or in a direction composed of geometrical lines; but it should be over a surface of geometrical forms: that is, the surface should either be level, of an even slope, or, as far as practicable, of regular swells and declivities. It should never assume a direction, or pass over a surface, which could be supposed to be natural or accidental. If the conducting of an avenue over such a surface, and in such a direction, is found, in any case, to be altogether unavoidable, then, to maintain the character of art, recourse must be had to foreign trees, most studiously arranged. Our readers will observe, that these remarks on the subject of avenues have reference to our principle of the Recognition of Art; a principle which we find to be of the utmost value, both in landscape-gardening and in architecture. By this principle, we are enabled to determine many points which were before involved in uncertainty, chiefly from the difficulty of deciding what was meant by the imitation of nature. The result will be, when the principle is properly

understood, a greater unanimity of judgment on matters of taste than has ever heretofore been displayed.

North Stoneham Parsonage, the Rev. F. Beadon. — August 20. The situation is low and flat, and therefore not favourable for acclimatising plants; but, in other respects, the place may be compared with that of Mr. Garnier (which we saw the same day, and which is described at length in X. 124.), with a greater preponderance of herbaceous plants. Mr. Beadon was from home; but we were shown through the place by his very intelligent gardener, Mr. Harding. The first things we noticed were the magnolias; and a *Rosa sanguinea*, against the house, 27 ft. high, on its own root, and covered with roses from the ground to the roof. Against the conservatory wall, or wall for acclimatising plants, are many of those usually kept in green-houses. Among the plants on this wall, we observed *Chimonanthus fràgrans*, ripening seed; *Alstrœmèria hirtèlla*, in flower, with shoots upwards of 6 ft. long; *Thunbèrgia alàta*, in great luxuriance, sowing itself every year, a proof that it may be treated as an annual. *Maurándya Barclayàna* here, as in some other places, is found to be perfectly hardy; and the same, we have no doubt, will be found to be the case with hundreds of other plants which have not yet been tried. Among the beds on the lawn may be noticed one of *Rosa sanguinea*, bordered by *Oxalis floribúnda*; and one of *Verbèna chamædrifòlia*, mixed with *Thunbèrgia alàta*. The collection of choice shrubs and ornamental trees is remarkable, considering the limited extent of the place; the secret of which is, that few common plants or duplicates are admitted. There is not a greater mistake, in planting pleasure-grounds, than the mixing of the common or indigenous shrubs of the country with foreign or improved species or varieties. It is as bad in a garden, as it would be, in the elevation of a house, to mix Grecian ornaments with Gothic ones.

In the kitchen-garden are excellent crops of fruit on mud walls; a choice collection of apples; a strawberry stage, like that at Swallowfield Place (IX. 677.); ginger grown in a pit; and a system of wires stretched over the whole surface of the walls, communicating with a bell to set the dogs barking should any person intrude to steal the fruit.

Southampton. — August 22. This town is wonderfully improved, and increased in size, since we last saw it, when on a walking excursion through the New Forest and the Isle of Wight, in 1807. The elm tree avenue, forming the London approach to the town, has been extended by planting young trees on both sides of the road: but, considering the richness of the corporation, we think they might have formed prepared and manured pits of soil for each tree, and surrounded each by

a cradle fence. Instead of this, the trees have been planted in the common soil of the heath or waste, without any stirring or preparation of the soil; and they are only protected by a small hillock of earth heaped up round the root of each tree, and by tying thorns round each stem. Where economy is the great object, this may be allowable, since trees even so planted are better than no trees at all; but here we cannot but consider it as highly discreditable to the town.

Page's Botanic Garden and Nursery. — *August 23.* The Botanic Garden is situated in the town; and, though small, contains an astonishing collection of herbaceous plants, including the newest sorts, and very many green-house and hot-house exotics. We here found the best collection of lobelias and perennial delphiniums which we have ever seen. *Delphinium Garnierianum* (after the Misses Garnier of Wickham) was remarkably fine. We were surprised at the enthusiasm of Mr. Page in bestowing so much labour on the culture of exotic aquatics on dung beds, in the manner done in former times by Mr. Kent of Clapton. (*Encyc. of Gard.*, new edit., § 6218.) Mr. Page has flowered, in this manner, *Nelumbium speciosum*, and all the exotic species of *Nymphæa*; and, for the first time, as we believe, in England, *Pontederia crassipes*, which bears a flower resembling that of *Rhododendron arboreum*. To bring the *Pontederia* into flower, Mr. Page removed all the runners, so as to strengthen the main plant. All the old varieties and species of Geraniaceæ, many of which are not now to be had about London, together with some fine new seedling varieties raised by Mr. Page, are here cultivated. *Jacquinia aurantiaca* is now in flower, as is *Convólulus bryoniæfolius* and *althæoides*, in the open garden. Most conservatory plants stand out during winter in this garden. In a narrow passage leading to it from Mr. Page's shop are a number of specimens of choice climbers and trees and shrubs; which, though shaded by a high wall from the direct influence of the sun, are yet benefited by a white-washed house, which receives its rays, and reflects them on the plants in the passage. The walk along this passage is formed by a mixture of gravel and tar sanded over, somewhat in the manner of Lord Stanhope's composition.

Mr. Page's Nursery is on the outskirts of the town; and is remarkably well laid out in compartments, and sheltered by hedges. Here is a general collection of fruit trees planted along the walks, as stock plants for scions; and vine stools for the same purpose. Mr. Page is making preparations for a complete arboretum, in the manner of that of Mr. Donald, which, we are sure, will be of immense service to this part of the country, by showing to the resident gentlemen those sylvan treasures hitherto known only to botanists and landscape-gardeners. Mr.

Page has been, during his extensive practice as a landscape-gardener and planter, introducing such trees wherever he could : but this exhibition will greatly increase his facilities of so doing. We know of nothing more commendable in a nurseryman, either for the good of his profession, or the benefit of his employers and the ornament of his country, than the practice of planting out single specimens, and forming arboretums. We found the whole of this nursery in most excellent order ; and a number of things worth noticing if we had time and room. Among these, we cannot avoid mentioning a span-roofed pit, placed east and west, with boarded shutters on one side, and glazed sashes on the other ; which sashes and shutters can be changed at pleasure, so as to admit the sun in winter, and afford shade in summer. The sashes are kept from being blown off by the violent winds common to Southampton, by iron buttons, which turn on iron screws, one of which is inserted about the centre of every rafter. Buttons fixed in the common way for the same purpose are apt, in time, to get loose ; but, when this is the case with these, it is only necessary to give them an additional turn to render them as tight as can be required. Mr. Page possesses an extensive meadow, composed wholly of peat earth ; so that his facilities for growing American plants are unbounded. In this nursery, and also in that of Mr. Rogers, the *Asclèpias tuberôsa* thrives and blooms with extraordinary vigour ; and, when once established, is as difficult to root out of the soil as potatoes or horseradish ; so that there appears to be something in the climate of Southampton peculiarly suitable to this plant.

Rogers's Nursery. — *August 24.* This nursery is three miles from Southampton, on the London road, and contains nearly 100 acres of land, newly broken up from an unenclosed heathy waste. It is the commencement of a nursery which, if prosperity attend Mr. Rogers's endeavours, will one day be a place of note. The highest part of the grounds is 175 ft. above the level of the water at Southampton ; and the ascent from the town to this point, along a line nearly straight, is so gradual as to be scarcely perceptible. Mr. Rogers has built a picturesque cottage, on a raised platform, commodious, convenient, substantially finished, and in good taste. Sheds, pits, frames, and other nursery buildings are in progress. The nursery extends one whole mile along the public road ; and, parallel to this road, and of the same length, Mr. Rogers has formed a walk, along both sides of which he proposes to plant an arboretum like that of Mr. Donald ; or, perhaps, rather like that in the university garden at Vienna, where there are but two rows of trees on each side of the road. Along the road side, Mr. Rogers is preparing to plant a mixed hedge of double furze,

Cyddonia japonica, China roses, and sweet briar. The space within this part of the grounds is divided into compartments, each a pole ($5\frac{1}{2}$ yards) in width, and of a certain length; so that the quantity of surface, and of plants in rows at any given distance, which each compartment will contain, is readily ascertained. The compartments are numbered; and the numbers being entered in a ledger, with the stock, the number of rows, plants in a row, &c., on each, Mr. Rogers can give the clearest instructions as to taking up plants for executing orders, preparing or clearing the soil, or planting, without looking at the compartments above twice a year. At the same time, as the main walk goes up the middle of the space between these compartments, he, friends, the visitors of the nursery, or customers, have only to drive up it and return to pass in review the whole of the arboretum, and of the compartments of young stock, with all the men at work in them. In one of these compartments Mr. Rogers has formed what we have never before seen in any nursery; viz., separate plots, exhibiting specimens of the size, kind, and quality of the plants; the size of the pits; the different modes of planting by contract; and the scale of prices for planting extensive tracts. The scale is 3*l.*, 5*l.*, 7*l.*, 10*l.*, and 15*l.* per acre, at the rate of from 3000 to 5000 plants per acre; engaging to replace failures for a given term of years. All the plants are in rows, at regular distances between and in the row; and this is the only mode in which plantations can be planted and managed afterwards systematically.

The lowest-priced plot consists of alternate rows of Scotch pines and larch firs; the plants from 6 in. to 1 ft. high, and the pits 1 ft. square and deep.

The second plot, of alternate rows of deciduous trees and undergrowths, and resinous trees; viz., the first row, one oak and two hazels or birches; the second row of Scotch pines; the third row of oaks and hazels or birches, as before; and the fourth row of larches; the plants from 1 ft. to 1 ft. 3 in. high, and the pits 1 ft. 3 in. square and deep. Where the soil is good, the undergrowth plants in the deciduous rows are hazels; where bad, birches.

The third plot is of a similar kind, but contains larger and better trees; and the pits are 1 ft. 6 in. square and deep.

The fourth plot contains a mixture of ornamental trees and shrubs: the plants are from 1 ft. 6 in. to 3 ft. high; and the holes are 1 ft. 6 in. square and deep.

The fifth also contains a mixture of ornamental trees, from 3 ft. to 6 ft. high; many of the undergrowth being laurels and rhododendrons; and the pits are 2 ft. square and deep.

Plantations formed according to any of these plots may be thinned according to a determinate system, so as ultimately to

leave only a certain number of timber or ornamental trees on any given space; or timber and ornamental undergrowth. This scientific mode of planting has been admirably illustrated by Mr. Lawrence (X. 27.). Mr. Rogers's mode of laying out a nursery is founded on the principle laid down in the second edition of our *Encyc. of Gard.*, § 7350.; and new edit., § 6898. Mr. Rogers, like most other planters, prefers opening his pits in the summer season, and planting in November. In very wet clayey soils, where pits are formed, spring planting is generally considered preferable: but, with the perforator, or by slit planting, even on such soils, the autumn is equally good. Mr. Rogers is laying down stools of the single camellia; and intends to use these as ornamental undergrowths, in common with the different rhododendrons, azaleas, kalmias, &c. Notwithstanding the elevation of Mr. Rogers's nursery, all the plants which stand out at Southampton appear to stand out equally well there.

(To be continued.)

ART. II. On Cottage Allotments. By SELIM.

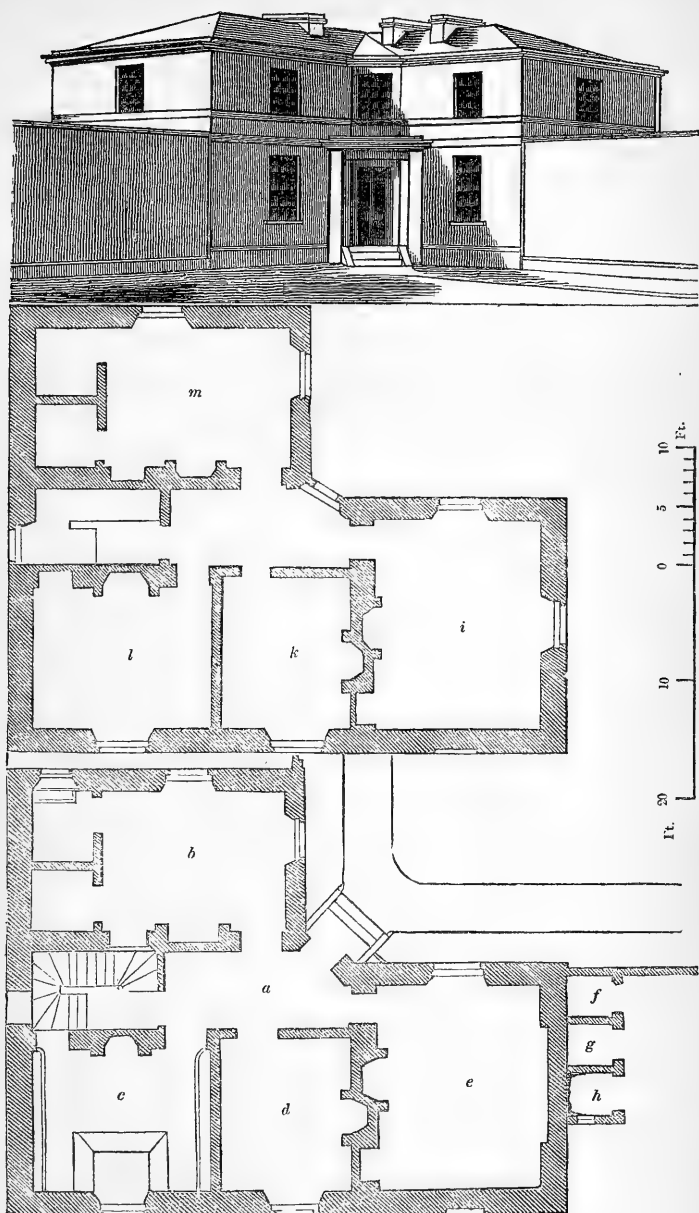
As a sincere wellwisher to the labouring classes, I, of course, take an interest in the success of the cottage allotment system, which is especially calculated to increase the comforts of the poor. Hitherto, I believe, the system has succeeded: and, should it fail eventually, the failure will arise, I think, from the impoverished state of the soil, which is cropped annually without the necessary dressing of manure. In most places the cottagers cannot procure animal manure beyond what is produced in their own pigsties, and the little they can collect upon the roads; and this will be found insufficient to afford a slight dressing to the garden and allotment every alternate year. How, then, is this deficiency to be supplied? I answer, principally by good management, which will often do as much as money: and, with respect to management, the labouring classes are, in too many instances, lamentably careless and ignorant. But a sensible cottager will generally take a hint from a superior in rank and information; and those who wish well to the allotment system will promote it most effectually by hints as to management, and by pressing upon the occupiers the necessity of collecting every description of manure, if they would be certain of remunerating crops. To show what may be done in this way by a little management, I will instance a garden I am well acquainted with, which is made almost to manure itself; and I believe I may safely assert that, for the last twenty years, it has not had the benefit of a single cartload of yard or stable dung: yet the crops are abundant, and the vegetables of good quality, though

the ground is cropped thickly, and seldom has a third part vacant during the winter months. It is managed in this way:—All the refuse of the garden, such as cabbage leaves and stalks, bean and pea stalks, weeds (which are removed from the ground before they seed), leaves, rubbish, and flower stalks from the flower beds, mowings of grass plots, &c. &c., is carefully collected in a heap; and to this are added the soot from the chimneys, lime rubbish should there be any, the contents of a drain from the kitchen sink, and the scrapings of about 200 yards of a frequented road. Upon this heap the chamber slop pail is emptied daily; and the whole is repeatedly mixed and turned over till it is thereby decomposed; and it is then fit for use. The garden I allude to has a good dressing of this compost once in the year; some parts of it twice a year. The ground is dug deeply, and the few vacant spaces are thrown up into ridges during the winter. The result is an abundant crop of everything. The vegetables are of a good size, and generally free from canker, and as well, or, perhaps, better, flavoured than those produced in gardens which are constantly dressed over with stable manure. It may probably be imagined that this sort of compost will increase the crop of weeds; but this is not found to be the case, as the weeds are generally hoed up before the seed is formed. The mixture of flower stalks in the manure causes a few flowers to grow among the crops as weeds; but most of the flower seeds perish during the process of decomposition. Now, why should not every cottager thus make his garden produce its own manure? I can speak confidently of the success of the plan, having observed it, in the case alluded to, for the last five years; and I strongly recommend it to the attention of those who have the management of cottage allotments. Were this plan adopted for the garden, all the straw-dung produced in the pigsty might be laid upon the allotment, and there would probably be sufficient to give the whole a tolerable dressing every alternate year. The land would thus be kept in a productive state, and abundant crops would remunerate the labour of the industrious occupier. I, of course, suppose the cottager to be never without a pig; that he does not sow the same sort of crop on the same plot two years following; and that his ground annually produces some kind of grain, besides a crop of potatoes.

Wiltshire, Nov. 1834.

ART. III. *Design for a Gardener's House, adapted for the South-West Wall of a Kitchen-Garden.* By Mr. ROBERTSON.

THE materials for executing *fig. 12.*, as observed with reference to preceding designs, may be either stone or brick. The

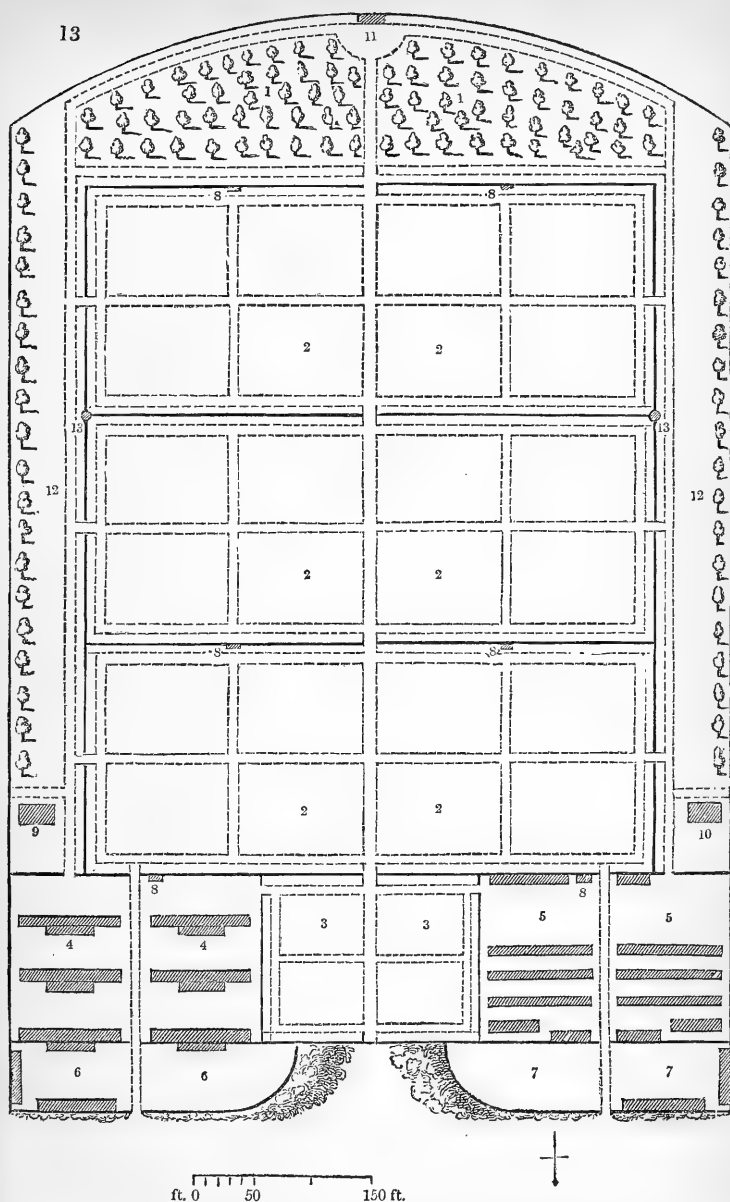


accommodation is as follows:—*a*, entrance lobby and stair; *b*, kitchen, pantry, and closet; *c*, office, seed-room, and garden library; *d*, journeyman's room; *e*, parlour, having, like the kitchen, a view of the garden; *f*, fuel; *g*, ashes; *h*, privy; *i*, master's bedroom, having a view of the garden; *k*, *l*, children's bedrooms; and *m*, journeyman's bedroom.

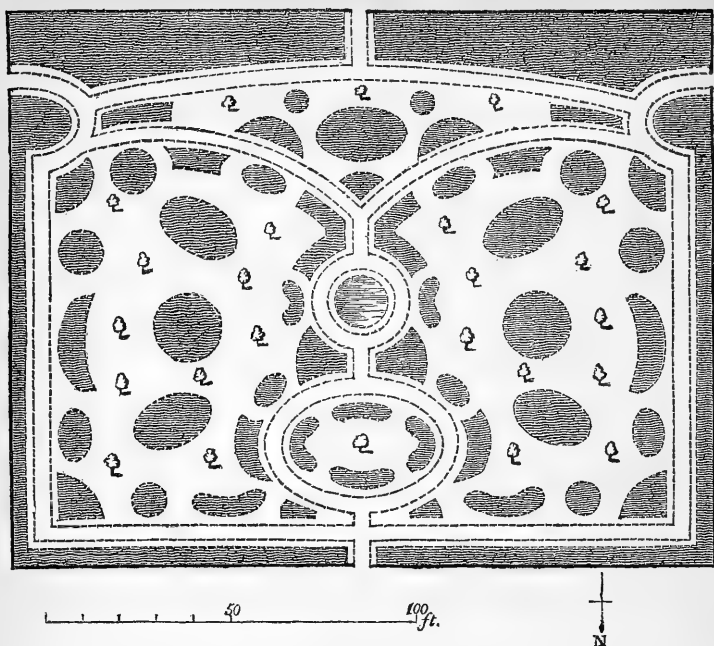
ART. IV. *A Series of Designs for laying out Kitchen-Gardens.* By Mr. T. RUTGER. Design 8., *Containing nearly Seven Acres within the Walls, and the small Garden and Slips about Three Acres and Three Quarters.*

THE plan No. 8. (*fig.* 13.) gives the entrance from the north, which, in some cases, may be unavoidable, however objectionable it may be as a general rule to follow. The object of the small entrance garden is to keep from view the back part of the forcing-houses and frames, and for an entrance to be effected only into the departments fronting the glass of each. I have suggested a flower-garden (*fig.* 14.) as appropriate for such an entrance, in order to make it the more entertaining; but a fruit-garden may be substituted, if better approved of. If the flower-garden should be adopted, entrances for a cart may be gained through the forcing department and the frame ground, by making the walks wide enough to join the central walk in the garden. However, it is intended that it shall not be really necessary to enter this garden from the north. The entrance may be from the south, by omitting the lodging-room for the second under-gardener; and, in this case, the forcing and frame departments may be copied from plan No. 7., or they may be left as they are in the present plan. The culinary departments of this garden comprise within the walls nearly seven acres; the small garden, nearly three quarters of an acre; and the slips, including the fruit-garden or orchard, nearly three acres more. I have annexed a plan for the flower-garden for approval, the same as in plan No. 7., the back border of which is intended for American plants. The side borders are narrow, in order to have as much wall as possible for choice creepers.

Having thus gone through my proposed series of plans as far as I think necessary, from which, by modifying, I conceive, a garden may be laid out to any extent, and have all the conveniences necessary according to its size, I shall now lay down my compasses and scales for the present. I had purposed to give a plan with the forcing and frame departments at the south entrance of the garden; but, upon second consideration, I do not see the utility of it, as sufficient ideas may be drawn from the plans already given, for the construction of such a garden, if



- 1, Fruit-garden or orchard. 2, Culinary departments. 3, Flower-garden or fruit-garden.
 4, Forcing department. 5, Frame-ground, containing ranges for melons and cucumbers, cucumber ridge, &c., with pine and melon pits, sheds for sundry purposes, and dwarf walls for training.
 6, Compost ground, and sheds to forcing department. 7, Compost ground, and sheds to framing department, and for mixing and turning dung, &c. 8, Water tanks. 9, Gardener's house and yard.
 10, Fruit room, onion room, seed room, and lodging-room over. 11, Lodging-room for second under-gardener. 12, Slips. 13, Proper situations for small neat rotundas, to be erected and carried up above the height of the walls, for lodging-rooms for under-gardeners, by way of protection for the garden at night.



wanted. I have always considered it to be a convenience to keep the forcing departments as near together as possible, as will be seen throughout the series. A south entrance, I conceive, is always to be preferred, if attainable; and it may be generally adopted where the garden is situated at the north, north-east, or north-west side of the mansion, which is always desirable where the garden is near the mansion; but if far removed, which is sometimes the case on large demesnes, it becomes of less consequence.

I have introduced no standard fruit trees in the quarters of any of the gardens, because, upon a general principle, I object to them in that situation. Were I to plant any, it should be those of the lighter sorts, as plums, cherries, &c.; and these alternately in straight lines upon the margin of the quarters, and particularly on each side of the central walk of the garden, where they would present an avenue-like appearance, and be somewhat ornamental.

In conclusion, I beg to state that I shall be happy to see other designs introduced in your Magazine, better adapted for the purpose than those now submitted to the public. My object, as I stated in the first instance, is to bring to view all that is known upon the subject, in order to perfect the object proposed.

Shortgrove, Essex, 1834.

ART. V. *Description of some of the Magnolias grown at Harringay House, Hornsey, Middlesex, the Seat of Edward Gray, Esq.* By Mr. THOMAS PRESS, Jun.

I HEREWITH send you a description of some magnolias grown in the garden of Harringay House. Among others, the following are the most deserving of notice; at least, all those who have seen them, and who are acquainted with the most remarkable plants of the same sorts, say they are the finest they ever saw in Britain. The sorts I shall mention are these:—*Magnolia grandiflora* var. *obtusifolia*, *conspicua*, and *Soulangeana*, which are against a wall with a south aspect; and *M. macrophylla*, which is a standard.

M. grandiflora is a splendid tree. Its beautiful white flowers, which begin to open about June or July, and continue in succession until October, form an agreeable contrast to its large, glossy, dark green foliage. This tree is 20 ft. 6 in. in height, and is 22 ft. across from one side to the other. The circumference of the stem, at 1 ft. from the ground, is 1 ft. 11 in.; its age, from the time it was planted, is twenty years.

M. conspicua.—This fine tree is 25 ft. high, and 16 ft. across; the circumference of the stem, at 1 ft. from the ground, is 2 ft. 8 in.; its age is, also, twenty years. In the spring of the year, it presents a most beautiful appearance; for I think we may calculate on having at least 2000 blooms on it this next season.

M. Soulangeana.—This is a very fine tree, considering the short time it has been in this country. About six years ago, it was inarched on a strong plant of *M. cordata*, which was planted at the same time as the others. It is now 20 ft. 6 in. high, and 16 ft. across. The circumference of the stem, at 1 ft. from the ground, is 1 ft. 1 in.

M. macrophylla.—This is the largest tree of the kind in the country. It is a standard, with rather a regular-shaped head. Its height is 22 ft.; and the diameter of the space covered by the branches is 17 ft. The circumference of the stem, at 1 ft. from the ground, is 1 ft. 10 in.; its age is twenty years. It produces an abundance of beautiful white flowers every year. This, and one of the same sort at the Duke of Devonshire's, are among the first that bloomed in this country. It is planted on a border facing the wall against which the other three sorts are planted.

The situation of these trees is on the top of a hill, in an aspect nearly south. The soil, which is a sandy loam, was trenched to the depth of 5 ft., and nothing put among it, except a little bog earth round the roots of the plants when planted. The subsoil on this spot we have not been able to prove, never

having gone down deeper than 20 ft. ; but to that depth it is all sandy loam. All the rest of our ground has a subsoil of strong clay.

Owing to the wall against which the trees are planted being rather short, they have not room to spread out as they otherwise would do. I should think that *M. conspícua* and *Soulangeana* would extend, each of them, 3 ft. more each way. The probable height, at ten years old, of all the trees was rather more than one half the present height.

The trees were planted by my father in the autumn preceding the severe frost in 1814; and, from that time to the present, they have had no protection whatever from the severity of the weather, notwithstanding the wall is only 15 ft. 6 in. high, and all the parts of the trees that are above it, supported by an iron trellis, are exposed to the wind and weather from all quarters.

It is worthy of notice, that, a few years previously to the time of these trees being planted out, the *M. macrophýlla* was, in several places, kept in the plant stove; from that it was brought into the green-house; subsequently, it was planted in the open air; and is now one of the many very beautiful trees that adorn our gardens.

Harringay House, Dec. 27. 1834.

ART. VI. *The History of the original Plant of the Exmouth Magnolia, in the Garden of Sir John Colliton, in Exmouth.* Communicated by Mr. R. GLENDINNING, Gardener to Lord Rolle.

HAVING written to various persons in Devonshire, and, among others, to Mr. Glendinning, to know whether this celebrated plant of the *Magnolia grandiflora* var. *exoniensis*, mentioned by Miller in 1730, was the oldest tree of the kind in England, we received the following notice, procured by Mr. Glendinning through the kindness of Lady Rolle:—

The Information of Thomas Tupman respecting the original Plant of the Exmouth Magnolia.—He says, that his father was gardener to Sir Francis Drake; that soon after the death of Sir J. Colliton, who lived at Exmouth, he (Tupman's father) left his place, and rented the garden, in which the magnolia tree grew, of Mr. Zorn (the then proprietor), with an agreement that he was to make layers of the tree at half a guinea a plant. Zorn made five guineas.

The garden afterwards came into the hands of a Mr. Davis, a mercer, of Exeter. This was about forty years ago (1794). Mr. Davis sent a labouring man, named Skinner, to cut down

an old apple tree; and, through this man's ignorance, the beautiful magnolia was, by mistake, levelled to the ground.

The trunk of the tree was about 5 ft. in height; and it was 1 ft. 6 in. in diameter. Tupman remembers a scaffolding erected about it, in his father's time, on which tubs were placed, to propagate it by layers.

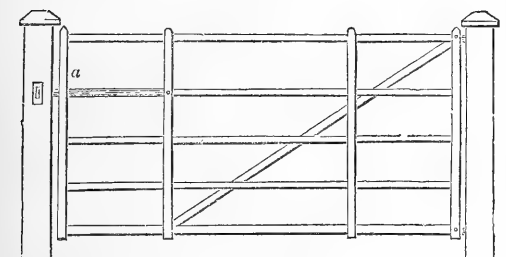
A small part of Exmouth lies in the parish of Wittycombe Rawley, in which parish the garden and premises of the said Sir J. Colliton were situated.

Bicton Gardens, Dec. 28. 1834.

ART. VII. *Short Communications.*

GATE-FASTENING in Lord Aylesford's Park, near Meriden, Warwickshire. — This fastening is simply a wooden drop latch,

15



but it forms part of one of the bars to the gate; and thus has a neater appearance than most of the common fastenings, not being perceptible unless when you are very near it, and being of the same colour as the gate. The

latch is that part of the bar (*fig. 15.*) which is coloured black, and lifts up in the ordinary manner, with a pin at *a*. The catch into which it falls has a screw pin through the post, and will drive lower, if the gate happens to sink; but this latter contrivance may be adopted or not. The keeper of the lodge stated that this mode of fastening was a plan of his own. — *Anon. April 19. 1834.*

All plants, whether in the garden, field, or forest, if in rows, should be placed in the direction of north and south, in order to admit the sun's rays every day equally to both sides of the row. — *A. S.*

Equalisation of Soils. — As in every climate, and in every degree of elevation above the level of the sea, at which useful plants will thrive, there are found soils formed by nature which are eminently productive; so, by analysing these soils, and imitating them by art, every portion of the cultivable surface of the globe might be rendered highly and equally productive, provided expense were no object. — *A. S.*

ART. VIII. *Floricultural and Botanical Notices of newly introduced Plants, and of Plants of Interest previously in our Gardens, supplementary to the latest Editions of the "Encyclopædia of Plants," and of the "Hortus Britannicus."*

Curtis's Botanical Magazine; in monthly numbers, each containing eight Plates; 3s. 6d. coloured, 3s. plain. Edited by Dr. Hooker, King's Professor of Botany in the University of Glasgow.

Edwards's Botanical Register; in monthly numbers, each containing eight plates; 4s. coloured, 3s. plain. Edited by Dr. Lindley, Professor of Botany in the London University.















Sweet's British Flower-Garden; in monthly numbers, each containing four plates; 3s. coloured, 2s. 3d. plain. Edited by David Don, Esq., Librarian to the Linnæan Society.

DICOTYLEDONOUS PLANTS: POLYPETALOUS.

XLVI. *Cactææ*.

In the first part of the 16th volume of the *Acta Acad. Cæs. Leop.-Carol. Nat. Cur.*, Dr. Martius has contributed a communication entitled "Beschreibung einiger neuen Nopaleen." This includes technical descriptions and figures of several species of *Cactææ*, which had been introduced, by the Baron Karwinski, into the Munich Botanic Garden, direct from their native places of growth in the kingdom of Mexico; and some generalisations on the plants of this order, the geographical distribution of them, &c. The Baron Karwinski has given other proofs of his zeal for enriching the collections of Germany with Mexican plants new to Europe: see X. 323., and the notice of *Lophospérnum atosanguineum* in our present Number, p. 75. As the last named plant has soon been imparted to the British collections by the German ones, it is not inconsistent to suppose that the *Cactææ* now noticed will also be imparted as soon as practicable; and, in the anticipation of this event, we already register the names of them:—

1471. MAMMILLARIA.

<i>pyncacantha Mart.</i>	clustered-prickled		pr $\frac{1}{2}$	sp	Lem	Oaxaca, Mex.	O s.p	N. cur. xvi. i. 17
<i>polyedra Mart.</i>	many-sided-mammillaed		pr 1	sp	Ro	Oaxaca, Mex.	O s.p	N. cur. xvi. i. 18
<i>polythèle Mart.</i>	many-mammillaed		gr 2	sp	P	Mexico	C s.p	N. cur. xvi. i. 19
<i>quadrispina Mart.</i>	quaternary-prickled		gr 4	sp	P	Mexico	C s.p	
<i>columnaris Mart.</i>	columnar-stemmed		gr 4?	sp	P	Mexico	C s.p	Akin to quadri.
<i>Zuccariniana Mart.</i>	Zuccarini's		pr 2	sp	P.Ro	Mexico	O s.p	N. cur. xvi. i. 20
<i>mystax Mart.</i>	mustachioed		pr 3	sp	R.P	Mexico	O s.p	N. cur. xvi. i. 21
<i>cirrhiifera Mart.</i>	curled-prickled		gr $\frac{3}{4}$?			Mexico	O s.p	
<i>Karwinskiana Mart.</i>	Karwinski's		pr 3	sp	Bh	Mexico	O s.p	N. cur. xvi. i. 22
<i>gladiata Mart.</i>	sword-clad		gr $\frac{3}{4}$?			Mexico	O s.p	
<i>glochidiata Mart.</i>	dart-clad		pr 3	sp	W.Ysh	Mexico	O s.p	N. cur. xvi. i. 23, 1
<i>vétula Mart.</i>	age-prickled		pr 3	sp	Lem	Mexico	O s.p	N. cur. xvi. i. 24
<i>crucigera Mart.</i>	cruciformly prickled		pr 3	sp	P	Mexico	O s.p	N. cur. xvi. i. 25, 2
<i>sphacelata Mart.</i>	withered-prickled		pr 3	sp	R	Mexico	O s.p	N. cur. xvi. i. 25, 1

This last species is now lost to the Munich collection.

3359. ECHINOCACTUS.

<i>pulchella Mart.</i>	pretty		pr $\frac{1}{2}$	sp	W.Bh	Mexico	O s.p	N. cur. xvi. i. 23, 2
<i>macrodisca Mart.</i>	wide-spread		gr $\frac{3}{4}$		P	Mexico	O s.p	N. cur. xvi. i. 26

The plant of this last species has died.

Not any of these may be yet in Britain. All of them had been introduced into Germany before May, 1832; for Dr.

Martius's treatise was laid before the academy on May 21. 1832. Some of them had been introduced as early as, or before, 1829; for the names of some of them are registered in the *Hortus Regius Monacensis*, Munich, 1829.

The descriptions are very detailed and elaborate, and the figures are exquisitely executed. Sections and views of the mammillæ, prickles, hairs (these are jointed in some species, perhaps in all), flowers, stamens, pollen, pistil, and of the berry, ovules, and seed, are given at the foot of one or other of the figures of the specimens: these last are coloured.

LXXVII. *Leguminosæ*.

2100. PHACIA. *canescens* Hook. & Arnott *canescent-herbaged* Δ [Jameson's *Edin. Phil. Journ.*, No. 35., descript. Δ] 1? jn.jy Pa.Ro Valparaiso 1831? S 1

Stem elongated, slightly branched. Leaf 3 in. long, of 10 or 12 pairs of leaflets. Racemes of flowers, axillary, on peduncles. Corolla pale rose-coloured. "This plant, found by Mr. Cuming at Valparaiso, we received in the botanic garden, Edinburgh, from that of Birmingham, in spring, 1834. It flowered in the greenhouse in June and July." (*Dr. Graham*, in *Jameson's Edin. Phil. Journal*, No. 35.) The plant is most probably hardy, or nearly so.

C. *Sapindaceæ*.

1159. EUPHORIA. *Lóngan* Lam. *the longan fruit* Δ [a floriferous branch; *Hort. Trans.* ser. 1. ii. 28*, the fruit. Δ] fr 30? my.jn Pa.Y China 1786. L r.m Bot. reg. 1729,

The litchi [*Euphòria Litchi*] and the longan are two of the finest fruits that the Chinese possess. Both species are trees; and many varieties of each are cultivated in China. In both species the fruit is of this structure: a tough, thin, leathery coat includes a colourless semitransparent pulp, in the centre of which is a dark brown seed. The flavour of the pulp is slightly sweet, subacid, and particularly pleasant to the taste, in a warm climate. The litchi is most esteemed by Europeans; the Chinese prefer the longan, considering it to possess medicinal properties as a stomachic. Both species have been transplanted, from China, to many places in the East Indies. (*Bot. Reg.*, Jan.) The figure of *E. Lóngan* in *Bot. Reg.* is from a plant in flower in a hot-house at Syon, in May, 1833. The figure of the fruit in *Hort. Trans.* is from fruit produced, in 1816, at Mr. J. Knight's, of Lee Castle, near Kidderminster: the only place in Britain in which *E. Lóngan* has produced its fruit.


CXXXIX. *Líneæ*.

921. LINUM. *monógynum* Forst. *concrete-styled* Δ or 2 jn.au W N. Zealand 1832. S s.1 Sw.fl.gar.2.s.270

Ornamental, herbaceous, perennial, hardy. The figure is from "a plant which flowered in Mr. Knight's collection, King's Road, Chelsea." We saw the species flowering in the London Horticultural Society's Garden in August, 1833. The stems, 2 ft. or more high, are garnished with glaucous leaves; and terminated by corymb-shaped panicles of flowers, whose

corollas are white, and as large as those of *L. perénne*. (*Brit. Flow.-Garden*, Jan.) The five styles are, Mr. D. Don has stated, “united together along their whole length:” on this ground it is that the term monógynum has been applied. This answers our objection in X. 356.: but is the concreted condition constant? — *J. D.*


CXLVII. *Ficöideæ*.

1520. MESEMBRYANTHEMUM.
 †13174 rubrocinctum Haw. red-edged-*lfd.* 2.  or $\frac{1}{2}$ my Pk C. G. H. 1811. C s.1 Bot. reg. 1732

The flower in the figure is 3 in. across. The “species may, perhaps, be considered the finest of this very extensive genus. Independently of its extraordinary beauty, it has the great merit of being able to resist as much cold as a pelargonium” is. Figured from a specimen produced in the garden, in Dorsetshire, of the Hon. W. F. Strangways. (*Bot. Reg.*, Jan.)

DICOTYLEDONOUS PLANTS: MONOPETALOUS.

CXCV. *Asclepiadææ*.

779. STAPELIA.
 Gussoneàna Jacquin Gussone's 2.  cu $\frac{1}{3}$ o R.St Sicily 1833. C s.1 Bot. reg. 1731

A native of rocks on the south of Sicily. All other known species of *Stapelia*, and of the genera formed out of the older genus *Stapelia*, are natives of South Africa. These facts suggest considerations of interest in botanical geography, such as the following, by Dr. Lindley: — “Are we to infer that Central Africa contains stapelias in its unknown flora? or is *S. Gussoneàna* a northern form, having no connection with the Cape of Good Hope races except in general structure? Perhaps we shall be justified in assuming the former to be the more probable theory, if we take into consideration that Forskahl found a plant without flower, which he took for a stapelia, in Arabia; and that carallumas, which are altogether stapelias in habit, are found in Continental India.” Dr. Lindley has omitted to determine to which genus of stapeliaceous plants *S. Gussoneàna* is referable. Mr. Haworth had pronounced the plant to be entirely different from any which he had ever seen. The flowers are small-clustered, and not showy. Figured from the London Horticultural Society's collection. (*Bot. Reg.*, Jan.) Mrs. Marryat possesses a plant of this species.

CCVII. *Primulææ*.

458. ANAGALLIS 3851. Monélli.
 var. Willmoreàna Hook. Willmore's 2.  or $\frac{1}{2}$ au.o P.B.Y.R Madeira 1834? C 1.t [Bot. mag. 3380]

Raised by Mr. Willmore, from seeds sent from Madeira. Mr. Don of Knypersley Gardens, near Congleton, Staffordshire, has sent it to Dr. Hooker, who received it with the specific name of *Willmoreàna*; but who thinks that, “however it may excel the *A. Monélli* in brilliancy of colour in the blossom, it will, on all hands, be granted that it can only be considered a

variety of that species." This is doubtless a very desirable kind. It flowers for a considerable length of time. Its corolla is "of a brilliant blue-purple above, paler and redder beneath; the eye or centre yellow; the margin minutely and irregularly crenated." (*Bot. Mag.*, Jan.)

CCXI. *Scrophulariææ*.

3468. *LOPHOSPERMUM* *D. Don*. Sp. 3. — [Sw. fl. gar. 2. s. 250
atrosanguineum *Zuccarini* dark-red-corollaed fl. —] or 10 in. o D.P. Mexico 1833. C p.1
Synonymes: *Rhodochiton volubile Zuccarini*, in 1829; *Lophospermum atrosanguineum Zuccarini*,
in 1832; *Lophospermum Rhodochiton D. Don*, in 1834.

Plants of this showy-flowered climbing species were raised, in 1828, in the Munich Garden, from seeds brought from Mexico by Baron Karwinski. M. Zuccarini sent, in 1829, the species to several gardens under the name *Rhodochiton volubile*, which he had applied to it. His subsequent examination convinced him that the species is one of the genus *Lophospermum*. The characteristics of this genus were first described, by Mr. D. Don, in the *Linnæan Transactions*; where he has also described two species of it. M. Zuccarini has, in the *Abhandlungen der Mathematisch-Physikalischen Classe der Königlich Bayerischen Akademie Wissenschaften* (Munich), 1832, presented an abstract of these characteristics; and described, in p. 306., those of the plant he had formerly called *Rhodochiton volubile*, and has there applied to it the name *Lophospermum atrosanguineum*. This fact was not present to Mr. D. Don's mind when he named the same species *Lophospermum Rhodochiton* in Sweet's *British Flower-Garden*, Aug. 1834, t. 250.; and Mr. D. Don has kindly communicated these particulars to us, that the priorly published name, *Lophospermum atrosanguineum Zuccarini*, may be made known as the legitimate one, to the abrogation of the name *L. Rhodochiton D. Don*. In the *Abhandlungen*, tab. 13., a plate of excellent figures, uncoloured, of the species is given: they exhibit a flowering specimen, and several parts of the flower and fruit. For information on the habits of the species, see *Gard. Mag.*, x. 460.

1779. *GERARDIA*. [Jameson's *Edin. Phil. Journ.*, No. 35., descript.
aphylla Nutt. leafless-stemmed O or 3 n Ro From N. Carolina to Florida 1834? S bog

This very pretty plant came up in soil in which plants of *Dionæa Muscipula* had been imported, from North America, by Mr. Cunningham of the nursery at Comely Bank, near Edinburgh. It flowered in the stove in November, 1834. [It was probably kept in the stove only because the plants of *Dionæa*, among which it had grown, were of necessity kept in that department.] Its flowers terminate the stem and branches in spicate racemes; the corolla is half an inch long, half an inch across, rose-coloured. (*Dr. Graham*, in *Jameson's Edin. Phil. Journ.*, Jan.)

1804. *COLLI'NSIA*.16019a bicolor *Benth.* two-coloured-corollaed O or $1\frac{1}{2}$ my.s W.P California 1833 S lt Bot. reg. 1734

Collected, by Mr. Douglas, for the London Horticultural Society. "It grows from 1 ft. to $1\frac{1}{2}$ ft. high; and produces its pretty blossoms most copiously in May and June, when it has been sown the previous autumn: if sown in May, it will flower in August and September." Its corolla is twice the size of that of *C. grandiflora*; the upper lip and the tube are white, the lower lip rosy purple. (*Bot. Reg.*, Jan.)

CCXIII. *Solàneæ*.482. *BRUGMA'NSIA*.

sanguinea R. & P. dark-red-corollaed 藥 匍 or 12 o.n D.R Peru and New Granada 1833. C 1 [Sw. fl. gar. 2. s. 272]

A very interesting species in the beauty of its flowers and leaves, and in the comparative hardihood it has evinced: the last quality is likely to render the first and second enjoyable by British lovers of the beauties of plants. Stem arboreous, 3 ft. to 12 ft. high. Branches short and leafy. Leaves from 2 in. to 9 in. long, and from 1 in. to 5 in. broad; alternate, ovate-oblong, waved and scalloped, with short blunt lobes; the whole dark green above, paler beneath. Flowers produced singly from the forks of the branches. Corolla funnel-shaped, 7 in. long; green towards the base, orange-yellow farther along its length; the limb 5-lobed, of a deep orange-scarlet; and this colour, lessened in intensity, seems to extend down the tube until it blends with the orange yellow, which, in its turn, blends with the green below it. *B. sanguinea* was raised in 1833, from imported seeds, at Hayes Place, Kent, the seat of Miss Trail. "One of the plants survived the winter in the open border; and this has happened to be the first to flower, which it did in October, 1834. The rest of the plants began to blossom soon after, and all, apparently, varying in the degree of intensity in colour . . . In a sheltered border, with a southern aspect, we have no doubt of its flowering quite as well as if retained in the conservatory." (*Brit. Flow.-Garden*, Jan.)

CCXXI. *Labiàtæ*.3451. *GARDOQUIA* R. & P.(*Don Diego Gardoqui*, Minister of Finance under Charles IV. of Spain; who greatly promoted the publication of the *Flora Peruviana*. — *D. Don*.)

14. 1. Sp. 3.—

Hoókeri *Benth.* Hooker's 藥 匍 or $1\frac{1}{2}$ jn.o S S. Carolina 1832. C pl Sw.fl.gar.2.s.271

A small upright branched shrub, with obovate pointed leaves, from a quarter of an inch to half an inch long; of a glaucous-green colour. Flowers produced at the axils of the leaves, singly or three together. Corolla large for the foliage; by the figure, $1\frac{1}{2}$ in. long; scarlet, tubular, and expanded at the mouth into two distantly separated lips, the lower of which is 3-cleft. Mr. Charlwood introduced the species, in the end of 1831, or early in 1832. (*British Flower-Garden*, January.) It is a delicate showy little shrub. Mr. Dennis has plants of it in cultivation.

MONOCOTYLEDONOUS PLANTS.

CCXXXVIII. *Amaryllidæ*.

979. ALSTROEMERIA. (Bomarea Mirbel : *Lindley* in *Bot. Reg.* 1410., *Penny* in *Gard. Mag.* ix. 491.)
 8045a *Salsilla* L. *Salsilla* $\frac{3}{4}$ [] or 5 my.jy F.W.O Chile 1831. D l.s.p Sw.fl.gar.2.s.269
A. oculata Lodd. *Bot. Cab.* 1851., *Bot. Mag.* 3344.
 8045 *edulis* Tussac eatable-tubered $\frac{3}{4}$ [] clt 6 jn.jl G.C S. America 1806. D l.s.p Bot. mag. 1613
A. Salsilla of some botanists of Britain, but not of Linnæus. Tussac has named this species *A. edulis* in his *Flore des Antilles*. — *D. Don*.

In VIII. 724., IX. 491., X. 461., are notices of a newly introduced species of *Alstroemèria*, named *A. oculata*. Mr. D. Don has discovered that this was really the kind which Linnæus intended as his *A. Salsilla*. (*Brit. Flow.-Gard.*, Jan.)

CCXL. *Orchidæ*.

- ACANTHOPHYPPIUM. ("A name, the meaning of which is not explained by its author, Dr. Blume." — *Dr. Lindley*.) 20. 1. Sp. 3. — [Bot. reg. 1730
bicolor *Lindley* two-coloured-perianth $\frac{1}{2}$ [] or $\frac{3}{4}$ jn Y.R Ceylon 1833? O p.s.potsherds

It has very much the habit of a *Geodorum*, only it has pseudobulbs instead of tubers. It is attractive in its flowers : these are produced, from two to four together, upon a short peduncle which arises from near the base of the shoots. The perianth is tubular and bellied, about $1\frac{1}{2}$ in. long, and is a little expanded at the tip ; the tubular part is of a rich yellow colour ; the expanded portion dark red, of which colour the tips of two of the petals partake. The figure is from a plant possessed by the London Horticultural Society. Two other species of the genus are known ; one is a native of Java, one of Sylhet. (*Bot. Reg.*, Jan.)

2483. HABENARIA § Trifidæ § Multifidæ.
gigantæa Sm. gigantic-proportioned $\frac{3}{4}$ [] or 4 s Gsh.W Bombay 1834. O p.l. Bot. mag. 3374

Plants of this species, under the name of *Orchis Susannæ*, were received at the Glasgow Botanic Garden, in June, 1834, among other terrestrial orchideous plants from Bombay, from Joseph Nimmo, Esq. Those of *H. gigantæa* flowered in great perfection in the following month of September, yielding a delicious fragrance, and have added a truly splendid plant to the already rich collection of *Orchidæ* in that establishment. Stem 3 ft. to 4 ft. high, stout, very leafy ; lower leaves broadly elliptical ; flowers four to six, very large, nearly 4 in. between the extremes of the two lateral sepals ; greenish white, very fragrant. The spur very long, green. The side lobes of the lip divided like a comb. (*Bot. Mag.*, Jan.)

2511. MICROTIS. (*Mikros*, small, *ous* *otos*, an ear ; a small auricle on each side the column.)
 20. 1. Sp. 4. —
 +22600 *parviflora* Br. R. small-flwd. * [] cu 1 s.o Pa.G.W Port Jackson 1824. O m.s Bot.mag.3377
mèdia R. Br. middle-sized * [] cu 2 ... Pa.G.W King G.'s Sd. 1823. O m.s Bot.mag.3378
Banksii Hook. Banks's * [] cu ... New Zealand Bot. mag. 3377. in the text
 Synonym : *M. porrifolia Sprengel*.
 "It appears to stand intermediate between *M. rara* R. Br. and *M. mèdia* R.Br."

Stems and leaves slender ; flowers in a spike at the tip of the stem, small and unshowy. In the figures cited, highly magnified views of several of the parts of the flowers are presented. *M. parviflora* flowered at Kew in 1828 ; in the Glasgow Botanic Garden, in 1834. *M. mèdia* flowered at Kew in 1825, and died afterwards. *M. Banksii* may not have yet been seen living in Britain. (*Bot. Mag.*, Jan.)

REVIEWS.

ART. I. *Magasin d'Horticulture, contenant la Description, la Synonymie, et la Culture des Plantes les plus remarquables, les plus rares, et les plus nouvellement introduites en Belgique, et toutes les Nouvelles de quelque Intérêt qui ont rapport à l'Horticulture.* Supplément aux ouvrages de Dumont-Courset, Noisette, Vilmorin, Poiteau, &c. Par R. Courtois, Docteur en Médecine, Sous-Directeur du Jardin Botanique de l'Université de Liège, &c. 8vo, 10 monthly numbers. Liège, 1832-3.

IN the preface, the author informs us that England has her *Botanical Magazine, Register, and Cabinet*; France, her *Herbier de l'Amateur*; and Belgium her *Sertum Botanicum*; but that these works, being illustrated with coloured plates, are only accessible to a few. He therefore proposes to publish descriptive notices, without plates, of all the plants newly introduced into Belgium. In addition to this descriptive list, he proposes devoting a few pages, in every number, to horticultural and botanical news.

On looking over the numbers before us, we find short descriptions of 677 species, chiefly from English periodicals, but partly from Continental works, and a few from plants in Belgian nurseries, and particularly in that of M. Jacob Makoy, at Liège. There is an introduction, explaining botanical terms, and giving an outline of the natural system, with its improvements by Dr. Lindley, as in his *Introduction to Botany*, edit. 1832.

The following plants, described in Dr. Courtois's *Magasin*, do not appear yet to have found their way into our *Hortus Britannicus*, and most of them not into British nurseries, unless we are to suppose that they exist there under different names:—*Camellia japonica candidissima*, called by some *C. Sieböldi*; it is stated to have been brought directly from Japan, by Dr. Siebold; that it assimilates to *C. j. Wellbankiana*, and is deemed by some a species. *Cheiranthus Cheiri* folio variegato, floribus purpureis plenis; this kind has been received at Claremont from Dr. Courtois; and is stated to be a very pretty one. *Acacia paradoxa* Dec., *A. curvifolia* Bonpland. *Acer eriocarpon* Mx. var. intermedium Courtois, seen in the garden of "M. Membrède à Olbeck;" [looks as if intermediate between *eriocarpon* Mx. and *rubrum* L.] *Æsculus Hippocastanum* folio toto luteo Courtois. *Amarýllis Carnarvonia* Dec., *Zagrus* Hort. Par. *Anemone arborea*, *Aristolòchia galeata* Martius. *Bétula carpatica* W. and K., *urticifolia* Courtois, nitida Don. *Calceolaria excelsa*, and varieties of it. *Catalpa virginiana* flore cæruleo. *Campanula muralis* (syn. *C. Portenschlagiana* R. and S.), *Cerasus Mahaleb nana*, *Corylus purpurea* Hort. (the leaf is purple). Di-

gitàlis truncàta *Hort.* *Fagus sylvatica* var. tricolor, *F. s.* var. fol. varieg. albo, *F. s.* fol. tòto luteo: these, with the *Æsculus* and *Catalpa* above, are cultivated by M. Henrard, nurseryman, near Liege, "à St. Walburge." *Gésnera elongata* *Kth.*, placen-tífera *Loddiges's Catalogue.* *Grindelia villòsa.* *Iris germanica* varietas Van de Wiel. M. Courtois believes this to be a hybrid between *I. germanica* and *I. variegata.* Lantàna níveo-Cám-mara *Lejeune*, a hybrid originated by M. Millet. *Lilium exí-mium Courtois* (syn. *L. speciosum Siebold*, "who brought it from Japan, and who has enriched our gardens with a great quantity of pretty plants of that country." *Lobelia propínqua Hort. Angl.*: this is suspected to be a hybrid from *L. fulgens.* *L. Tupa purpúrea*, *L. cuneifolia Lk. and O.*, *hederacea Hort.* *Pæonia albiflora* var. *Reevèsi*; *P. Moutan rosea Courtois*: this is stated to be distinct from the variety known in Britain by this name; this last is *P. M. rubra Courtois.* *Phlox macrophylla*, "a hybrid?" *cruenta*, "a hybrid?" *philadelphica*, *Nuttallii* ("Ingrom of the gardeners is the same species"), *Caldriana*, *Thomsoni.* *Pimelèa paludosa R. Br.* *Polýgala grácilis Courtois*, raised at Brussels, from seeds received from the Cape. *Pyrèthrum maderiense.* *Rhododéndron Lowii*, a pretty variety of *R. pón-ticum*, originated (*gagnée*) by M. Jacob Makoy: it is named after Mr. Low of Clapton. *Salpiglóssis fúlva Courtois.* *Sálvia chinénsis* (syn. *S. betonicifolia* var. *R. and S.*). *Scóttia trapezi-fórmis Mackay.* *Clèthra Michaúxii.* *Coreópsis Ackermánni Hort. Angl.* *Davièsia púngens Mackay's Catal.*, 1825. [M. Courtois has the *Eutáxia púngens* distinct from this.] *Dill-wýnia cineráscens* var. *aurantiaca*, a hybrid obtained from seeds by M. Makoy, and one which, M. Courtois remarks, "offers a twofold interest; for the beauty of its flowers, and because it is the product of the fecundation of a *Dillwýnia cineráscens* by a *Polýgala attenuata*; as the possibility of this kind of cross impregnation has been recently denied." *Epidéndrum pálli-dum Courtois*, *grácile Hort. Belg.* Lantàna multiflora *Hort.*, *Lilium speciosum Thunb.* *Párkia africàna R. Br.* *Pýrus glu-tinosa Madiot.* *Rùbus cæsius folio variegato*, *collinus W. and N.* flòre plèno, *díscolor W. and N.* *semiplenus*, *díscolor W. and N.* *bellidiflorus.* *Vínca rosea foliis variegatis.* *Arctium nemo-ròsum Lejeune et Courtois.* *Ipomœa involucrata Beauvois.* *Fúchsia Thomsoni.* *Phlox pulchélla Hort.*

That part of the work which is of most interest to the British gardener is the miscellaneous portion; and this we shall look over, extracting anything that we may think interesting to our readers.

The first article is on the geography of plants, and its appli-cation to their culture, by Dr. Courtois, the editor. The problem to be solved is, "the native country of a plant being

given, to determine its culture in another country." To solve the problem, regard must be had to the station or habitat of the plant in its native country, the climate, the elevation, the soil, the supply of water, and the nature of the plant itself; viz., whether it is a tree or shrub, deciduous or evergreen, annual or perennial, &c. &c. The subject of the geography of plants only began to be studied at the beginning of the nineteenth century; and little has yet been done in the way of its application to the arts of culture. Plants may be divided, with reference to cultivation, into those of the open air, the orangery or conservatory, the green-house, and the stove. Each of these classes may be again arranged into those of common soil and those of heath soil. In duration, they are either annual, biennial, or woody; and, in regard to growth, either summer-growing, that is, making their young shoots in summer; or winter-growing, that is, making their young shoots in winter. The general principle, Dr. Courtois observes, is, to place the plant we wish to preserve in the same circumstances, as far as practicable, as it was in its natural habitat. He next describes the climate of Belgium, which appears to be much the same, in point of irregularity, as that of Britain; but with a more severe winter, and a hotter summer. The plants which survive the Belgic winter in the open air are those of Russia in Europe, Caucasus, Siberia, Sweden, Norway, Germany, Hungary, Switzerland, the Netherlands, France on the north of its central range of mountains, England, North America, Thibet, and Nepal. Those of the above countries are to be excepted which grow on the summit of high mountains, where they are sheltered during winter by a thick layer of snow. These require, in Belgium, during winter, to be covered with peat ashes, leaves, moss, or litter, or, for greater security, to be put in pots, and kept in a frame or conservatory. In the latter cases, they flower in February or March. The same plants which require to be kept in green-houses in England, require a green-house also in Belgium; but a number which stand the open air about London, such as the *Caméllia*, &c., and even some of our common hardy evergreens, will not stand the open air during winter either near Brussels or Paris.

In the fifth number of this work, we find a notice of a rival publication, *L'Horticulteur Belge*, in monthly 12mo numbers, each number containing twelve pages, and the subscription for the year to be three francs (2s. 6d.). Many of the articles in this publication are said to be taken from the work of Dr. Curtois; but, in the sixth number of the *Magasin d'Horticulture*, we learn that *L'Horticulteur Belge* was discontinued after the third number.

In speaking of the new fruits raised from seed by M. van

Mons, it is said to be much easier to raise new varieties of summer or autumn pears than of winter pears. Earlier pears have not been obtained than the *Petit muscat*, *Madeleine*, *Blanquet*, *Cuisse-madame*, and *d'Epargne*; nor later ones than the *Bon Chrétien d'hiver* and the *Bergamotte de la Pentecôte*. Many early pears have a musky flavour, but not one late pear. To obtain late melting pears ought to be the great object of those who try to originate new sorts. In No. vi. the employment of rhubarb stalks for food is mentioned as something new; and a paper is promised on the subject, which is given in No. vii.

A system of cropping a kitchen-garden is also given in No. vii. The ground is divided into eight parts, which are cropped thus:—1. From September till May, peas; from May till July, radishes, lettuces, spinach, cucumbers, and young potatoes; from August to November, winter turnips, carrots, or cabbages, or artichokes for the following year. 2. From August till May, winter carrots and cabbages, spring salads transplanted in March; in May, peas, beans, kidneybeans, lentils, early potatoes, and turnips, spinach, radishes, early chicory, melons, cucumbers, and gourds; all of which leave the ground free for beginning the rotation 1. in September. 3. In March, cabbages, cauliflowers, radishes, turnips, spinach, salads, and spring onions; all of which will leave the ground free in August to begin the rotation 2. 4. In February or March, make the first spring sowings of peas and beans, and the first plantation of early potatoes; to be followed by summer salading, cardoons, celery, lettuces, spinach, radishes, turnips, peas, beans, potatoes, and kidneybeans. All these articles will leave the ground free in March for commencing rotation 3. In exposed situations, German greens and Brussels sprouts may be substituted for some of the more tender articles. 5. In March, plant Jerusalem artichokes and late potatoes, sowing between them onion and cabbage seeds for early removal. Sow, also, winter carrots, artichokes, cardoons (artichokes cultivated in the same manner as cardoons, for the sake of the blanched footstalks of the leaves), chicory, salsify, and scorzonera for the following winter and spring; during which they will be removed in time to admit of commencing rotation 4. in February or March. 6. Sow, in spring, anything which is removable by August; when turnips and celery may be planted, or rotation 1. commenced. The two remaining parts of the garden, 7. and 8., are devoted to artichokes and asparagus; the former remaining three years, and the latter eight or ten years. We have given this outline of a rotation for a Belgian kitchen-garden chiefly with a view to stimulate some of our readers to give us rotations for British gardens.

In No. VIII. there is a memoir on acclimatising plants, in which the principle laid down is, that every exotic tree, in which vegetation is not suspended during winter, is incapable of being acclimatised in countries where the native trees have no sap in the exterior of their trunks (that is, no descending sap) during winter. Deciduous herbaceous plants, from warm countries, may be acclimatised, or rather grown, in cold countries, by covering the ground in which they are planted, during winter, with such a covering as will exclude frost. Plants with buds on their roots, whether ligneous or herbaceous, from warm countries, may generally be preserved by the same means; and hence the *Bouvardia triphylla* from Mexico, and the Chilean fuchsias, though they die down to the ground every winter, yet, the roots being furnished with buds, when they are slightly protected, they never fail to send up shoots the following spring. The *pelargoniums*, on the other hand, having few buds on the roots, and having these and the stems succulent, can seldom be preserved through the winter in the open air. The period at which plants vegetate in their native country materially influences their susceptibility of acclimatisation. The plants of the south of Chile vegetate in their native country at a time corresponding with our winter; and as they preserve their habit of vegetating at that time here, they never can be perfectly acclimatised unless their period of vegetation could be retarded by giving them a new habit. It is suggested that this might be done by keeping them in the shade, and in a low temperature, until it was desirable that they should vegetate. There are a number of other interesting remarks in this article, chiefly taken from Humboldt.

No. x. contains recollections of a botanical and horticultural tour in England, in the summer of 1833, by the editor, Dr. Courtois, who was accompanied by M. Makoy. This is one of the most intelligent and correct narratives of a gardening tour in Britain, by a foreigner, published in a foreign work, which we have seen. In general, such tours are full of misspelt proper names, and misconceptions of objects. Even the tours of M. Soulange-Bodin and M. Lenné, noticed in our first volume, though much more perfect than those of preceding and subsequent gardening tourists, are still liable to these objections. Dr. Courtois was struck with astonishment at the extent of the garden establishments in the neighbourhood of London, and could not conceive how the nurserymen could find sale for such an immense mass of plants. He was delighted with the small suburban gardens, and with the beautiful plants he saw in those of even a few yards square. He was pleased to observe pots of flowers in many shops, and in the windows of most small houses; but, above all, he was charmed with the English parks and pleasure-grounds. In speaking of the nurseries, he considers

it worthy of remark, that hedges can be formed of the Portugal and common laurel, of the alaternus, and of the holly; from which we may conclude that this cannot be done in Belgium, any more than it can in the neighbourhood of Paris. But what astonished him most in the nurseries was the number of plants from the south of Europe which stand the open air. "One might believe oneself," he says, "in Provence, or in Italy, if the air were only equally clear, and equally warm, as in those countries." Notwithstanding this, he found the finer fruits, such as the apricot, the peach, the grape, &c., not ripening so well in the open air near London as in the neighbourhoods of Brussels and Paris. The cause of this discrepancy is to be found in the comparatively uniform temperature of Britain throughout the year, and the hot summers and cold winters of the same latitude on the Continent. With respect to apples and pears, Dr. Courtois says, that it appears to him that the English gardeners do not understand how to prune them. They pinch off too much young wood in summer (*ils les ébourgeonnent beaucoup trop en été*), which destroys the formation of flower-buds; and they shorten the wood too much in the winter pruning, which makes the trees throw out shoots of such luxuriance in the following spring, that nothing can stop them. The beauty of the turf in England does not escape the notice of Dr. Courtois; and it would have been wonderful if it had, since there is nothing like it in the world. He says, he found walking on our lawns more like treading on velvet than on grass. He is astonished at the care bestowed in mowing them, and in sweeping up the grass; and, at the same time, at the utter disregard paid to the value of the hay lost by this mode of treatment. Some lawns, he says, are mown every week, and the dead leaves swept up every day. The culture of legumes he finds less perfect in England, in some respects, than it is at Liege; chiefly with reference to making the most of the soil (*le bon emploi de terrain*). "Little use is made of legumes in England; and they are not well cooked." "The pine-apple is cultivated for the rich, and the elder tree to make British wine for the poor." In general, he finds the foliage of our trees of a darker colour than it is on the Continent; which he supposes to arise from the freshness and humidity of the air, produced from the vicinity of the sea and the cloudiness of the sky.

After these general remarks on the aspect of England and the neighbourhood of London, Dr. Courtois notices the different establishments which he visited, commencing with Mr. Charlwood's seedshop, in Covent Garden. With the immense botanical collections of seeds from America and other parts of the world, which Mr. Charlwood imports, Dr. Courtois was much gratified; not only with reference to the commercial influence of

their dissemination, but to its effects on botanical science. He examined the herbariums at the Linnæan Society and in the British Museum; but, unfortunately, missed those of Mr. Lambert, “dont la célébrité est devenue classique, et qui renferme entr'autres les herbiers de Pursh et de Pallas.” The palm-house and the arboretum of Messrs. Loddiges surprised, delighted, and instructed Dr. Courtois; and the description which he gives of them occupies nearly three pages. He does justice to the Clapton Nursery, and to Mr. Low; to Mr. Press, and the grounds at Harringay, where he found *Magnolia conspicua*, *M. macrophylla*, and *M. Soulangeana*, each 30 ft. high; and *Melaleuca*, *Eucalyptus*, *Acacia*, and other Australian plants, in a conservatory, 25 ft. high. The nurseries of Messrs. Colvill, Knight, and Lee are next noticed at length; and also the garden of the Horticultural Society, its collection of models of fruits, and its tent, under which the flower shows are held, which, he says, he was told cost 900*l.* (about 100*l.*, we believe). At Kew, he was struck with the arboretum; and at Lady Tankerville's he saw “the most astonishing results of attempts at acclimatising exotic trees and shrubs.” He visited Hampton Court, and notices the two old fig trees in the fig-house, and the celebrated vine. The gardener told him that the king had new grapes on his table every week in the year, except the last week in March and the first two weeks in April. (Mr. Arkwright of Willersby has new grapes on his table every week in the year, without any exception. In fact, any gentleman may who chooses to go to the expense.) In speaking of Lady Tankerville's, at Walton, Dr. Courtois enumerates most of the fine specimens which we have noted X. 335.; and, when at Windsor, he appears to have seen a large myrtle and an *Araucaria excelsa* which we do not recollect. He saw, from the terrace, “de loin, dans le bois, la demeure de Penn, le fondateur de Philadelphie.” He should have said the residence of the grandson of that Penn who was the founder of Philadelphia. We have noticed this place in IX. 528.

The park of Claremont is described; and justice is done to the good taste of Mr. M^rIntosh, “un homme aussi aimable qu' instruit.” The establishments of Messrs. Chandler, of Messrs. Young of Epsom, and of Messrs. Rollison of Tooting, are noticed in succession, and discriminating approbation bestowed upon each. Dr. Courtois concludes with a notice of the Botanic Garden of Birmingham, which, he says, resembles that of Brussels.

Among the last notices in this tenth number is one of grafting the live points of the shoots of a plant of *Banksia Baxteri*, which was already dead at the root and up part of the stem, on *Banksia grandis*, by M. Makoy. In another paper, the cleft-grafting of

roses on briar or rose roots is recommended ; a practice which, we believe, has been partially adopted by some British nurserymen.

In Nos. XI. and XII., which complete the first volume, there is a note on the culture of *Dáphne Cneòrum*, by M. Jacob Makoy, in which he says the great art of managing this plant is, not to overcharge it with water at the roots. The silver and balm of Gilead firs, and, in general, all such as, like them, have their leaves flat and hollowed, are said not to lose their leaves by the dessication of their branches, like the spruce firs ; a fact of some importance while branches of these trees are used for the purposes of protection. The mistletoe is spread over the greater part of Europe and Northern Asia ; but is never found on high mountains. In Belgium, it is common on apples, pears, and thorns, principally in the hilly part of the province of Liege. The reason given by Decandolle why the mistletoe will live on different species of trees is, that it pumps up for its use the ascending sap from the alburnum, and not the elaborated, or descending, sap from the bark. On this account, also, it hurts the tree much less than if it lived on the descending sap. The mistletoe affords a proof that the ascending sap differs very little in different trees. Branches, in general, do not elongate after their annual shoot is completed ; but the contrary is said to be the case in *Thùja*, *Juníperus*, and *Cupréssus*. The forms and the colours of plants may be preserved by first sprinkling them with the powder of *Lycopodium*, or, probably, with meal or flour, and then placing them in a close case containing muriate of lime. The muriate powerfully attracting humidity, the plants are rapidly dried. This mode might, perhaps, be found suitable for succulents. At the moment of concluding the twelfth number of his work, Dr. Courtois saw in flower *Caméllia japónica Doncklàeri*, so named after the head gardener at the botanic garden at Louvain. It is said to be one of the finest varieties in the trade, and may be had at Makoy's nursery.

We have not noticed a few topographical and other errors in this work, because, on the whole, it may be designated as accurately and respectably got up ; and we have no doubt it will be of essential service to the botanists, floriculturists, and horticulturists of Belgium.

ART. II. *Hooker's Journal of Botany, &c.* Part IV., for November, 1834, p. 289. to p. 390., completing Vol. I. ; 7 plates. 3s. 6d.

THE contents of this periodical are, as usual, varied ; and, in a scientific point of view, highly interesting. In p. 320., six sorts of *Zizyphus* are described as among the fruits cultivated in

the Island of Mauritius. Our readers are aware that one species of jujube (*Z. vulgaris* Lam., *Rhâmnus Zizyphus* L.) is cultivated in Italy; but it is too tender for enduring the open air in this country. (See *Encyc. of Plants*, p. 479.) A paper, by Colonel Hall, entitled "Excursions in the Neighbourhood of Quito," contains some interesting observations on temperature; some of which we have extracted, and intend to give under the head of General Notices, as soon as we can find room. A number of Himalayan plants are described in a paper of some length; and the volume concludes with an extract from a letter from Dr. Poeppig to Dr. Hooker, giving an account of the writer's adventures in South America, while travelling there for natural history purposes. The plates are beautifully engraved; and one of them exhibits fruits of the different sorts of the jujube above mentioned. They resemble small plums, or large cherries: some are round, others heart-shaped, and others oblong and pointed. The colour is a reddish brown, or a greenish yellow.

ART. III. *Royle's Illustrations of the Botany and other Branches of the Natural History of the Himalayan Mountains, and of the Flora of Cashmere, &c.* Part IV., containing from p. 105. to p. 136. of the Illustrations of the Natural Orders; with nine beautifully coloured plates of plants. Folio. London. 20s.

THE first order in this part is *Dipterocarpeæ*; which, being peculiarly Asiatic, we pass over. *Ternstroemiaceæ*, which Mr. Royle, with Decandolle and Lindley, considers as including the camellia, &c., is highly interesting. The process of tea-making is described from the different conflicting authorities; but, as might have been expected, not so as to settle the numerous doubts which exist as to several points of the process, and even as to the plants from which the different kinds of tea are made. *Olacineæ* contains only Asiatic and African plants. *Aurantiaceæ* and *Hypericineæ* are the next orders in linear succession. The latter contains several species common to Japan and Nepal, which will, in all probability, endure the open air in Britain. *Guttiferæ*, *Hippocrateæ*, and *Erythroxyleæ* are Asiatic orders. *Malpighiaceæ* includes plants both of Asia and Africa. With pleasure we arrive at *Acerineæ*, all the individuals composing which belong to temperate climates; such as Europe, North America, Tauris, Tatar, and Japan. There are none of this order in the plains of India, or on the Neelgherry Mountains; but on the Himalayas there are several species of the genus *Acer*. No fewer than seven new species have been discovered in these mountains, at between 2000 ft. and 3000 ft. of elevation. A new genus, *Dobinæa*, has been discovered: it is a

shrub 6 ft. in height, and, when in flower, has a very light and elegant appearance. We trust it, and the seven new species of *Acer*, will soon be introduced into British arboretums and forest scenery. Hippocastaneæ: the few species which compose this order are natives of North America and of the mountainous parts of Asia. It is singular that the native country of the common horsechestnut is yet unknown. It is generally thought to belong to the north of India, but it has never been found there. The genus *Pavia*, which is distinguished from that of *Æsculus* by the surface of its fruit being destitute of prickles, is frequently met with in the lofty mountains of northern India. *Pavia indica* (not yet introduced into Britain) grows in elevations of 8000 ft. to 10,000 ft. on various mountains, and also near the sources of the Ganges. "It is a lofty and not less ornamental tree than the common horsechestnut." The bulky seed of this species is eaten in the Himalayas, and the bark is used as a tonic. Sapindaceæ is both an Asiatic and a South American order, and contains a number of tropical fruits.

ART. IV. *The Complete Farmer and Rural Economist; containing a compendious Epitome of the most important Branches of Agriculture and Rural Economy.* By Thomas G. Fessenden, Esq., Editor of the "New England Farmer." Boston, 1834.

THE object of the author is to give a brief practical sketch of some improvements in modern husbandry. With this view he has "collected, and generally abridged, from the sources which his occupation as editor of the *New England Farmer* has made it his duty, as well as his pleasure, to explore." In the preface the author gives some comparative observations on the agriculture of the United States, and that of Britain. He quotes from the journal of an American traveller in England; and afterwards subjoins his own remarks, and a notice of the climate, soil, and husbandry of the United States. We shall extract the whole, as likely to be useful to our readers, both agricultural and horticultural:—

"Every spot of ground in England capable of being cultivated is improved. Wherever I have been, the fields are generally small, enclosed by hedges, and made perfectly smooth by means of cast-iron rollers. Numerous trees are left to grow around the hedges, and scattered over the fields. These are so nicely trimmed as to add greatly to the beauty of the country. Not a weed is suffered to grow. The crops all look well, and are much more productive than ours. The cattle and sheep feed on grass up to their knees, and look, as we should say, fit to kill. The slight enclosures that keep them in their pastures would be but a poor protection against our lean, half fed, unruly animals. Here the cattle have no need to break fences; they have food sufficient within their own domains. I came here under the impression that this country was bare of trees: on the contrary, I find it better stocked in this

respect than the thick settlements of our own country. We wantonly destroy trees as if they were of no value; here they are planted and nursed with as much care as if they bore choice fruit.'

"Although we think the writer last quoted has somewhat exaggerated the defects of American husbandry, we must allow that his strictures are not so destitute of some foundation in reality as could be wished. We, however, have of late improved, and are improving, in every branch of culture, and bid fair soon to possess a system of agriculture as well adapted to our climate and circumstances as Great Britain, or even Flanders, can boast of at present. Our fields may have a less imposing appearance, and our products may be less in proportion to the quantity of land we have under cultivation, and still our tillage be, on the whole, judicious. The agricultural implements and farming operations of the United States are, in most particulars, very similar to those of Great Britain. Circumstances and climate, however, require variations, which the sagacity of the American cultivator will lead him to adopt, often in contradiction to the opinions of those who understand the science better than the practice of husbandry. In Europe land is *dear*, and labour *cheap*; but in the United States the reverse is the case. The European cultivator is led by a regard to his own interest to endeavour to make the most of his *land*; the American has the same inducement to make the most of his *labour*. Perhaps, however, this principle, in this country [America], is generally carried to an unprofitable extreme; and the American farmers would derive more benefit from their labour, as well as their land, if they selected such parts of their possessions as they could afford to till thoroughly, and to manure abundantly. A man may possess a large estate in lands, without being called on by good husbandry to hack and scratch over the whole, as evidence of his title: he may cultivate well those parts which are naturally most fertile, and suffer the rest to remain woodland; or, having cleared a part, lay it down to permanent pasture; which will yield him an annual profit, without requiring much labour.

"The climate and soil of the United States are well adapted to the cultivation of Indian corn, a very valuable vegetable, which cannot be grown to advantage in Great Britain. This entirely, and very advantageously, supersedes the field culture of the horse bean (*Vicia Faba*), one of the most common fallow crops in that island. *Root-husbandry*, or the raising of roots for the purpose of feeding cattle, is, however, of less importance in the United States than in Great Britain. The winters are so severe, that turnips can rarely be eaten by stock on the ground where they grow; and all sorts of roots are with more difficulty preserved and dealt out to stock in this country, than in those which possess a more mild and equable climate. Hay is more easily made in the United States than in Great Britain, owing to the season for hay-making being more dry, and the sun more powerful in the former than in the latter country. There are many other circumstances which favour the American farmer, and render his situation more eligible than that of those who pursue the same occupation in most parts of Europe. He is, generally, the owner, as well as the occupier, of the soil which he cultivates; is not burdened with tithes; his taxes are light, and the product of his labours will command more of the necessaries, comforts, and innocent luxuries of life, than similar efforts would procure in any other part of the globe."

On looking over the body of the work, we find, as may be expected, little that is not already in works well known to the British public; though, occasionally, there are passages which are new or interesting to many of our readers. Under the head of pasture grasses, it is observed, that "few of the grasses most valuable in Great Britain for pasture are the natural growth of the United States; but it is believed that if the seeds were once

introduced upon the American farms, we should find little difficulty in naturalising them." (p. 21.) This is a remarkable fact, which was long ago noticed by Mr. Cobbett. There are very few perennial grasses indigenous to Russia; and we believe the same thing is the case in all countries having winters of six or seven months' duration. It is certain, however, that perennial grasses will live and thrive in such countries; though it cannot be expected that they should yield as much produce in them as in those countries where they are kept in a growing state nearly the whole year. The perennial grasses in the neighbourhood of Edinburgh are in a dormant state for three months in every year: in the neighbourhood of London they are not in the same state for more than two or three weeks. In general, in all countries having long winters, annual and biennial grasses will be found to produce larger crops than perennials. Clover and rye-grass produce immensely both in Poland and Russia, and we have no doubt they would do so also in America; where it appears, however, that the red clover is not much known, though the white clover is produced in some districts spontaneously. For hedges, the *Rhámnus cathárticus* is preferred, in some parts of the country, either to the hawthorn or the locust tree; and, in other parts, the *Cratægus cordata* is preferred to the *Cratægus Oxyacántha*. Mangold wurtzel is much cultivated, and upwards of $33\frac{1}{2}$ tons have been raised on an acre. A plough, formed wholly of cast iron, is in general use among the best farmers; but there are a number of other sorts, with American names, which, being neither figured nor described, we are unable to judge of with regard to their merits. "The tree and bush puller is one of the most useful and effective implements in use; it is employed in clearing land of under-brush, small trees, barberry, and other bushes. It is of iron, of any size or dimensions required, something in the form of a rake or claw, with the teeth much bent. The ground is loosened around the tree or bush which is to be removed. The teeth, or claws, are entered on one side, a horse or oxen are attached by a chain to the claw, and drawn on the opposite side. One man and horse, or one yoke of oxen, will do more work with this implement than five men can do without it, in digging and clearing land." (p. 339.) The work concludes with a calendar of operations to be performed throughout the year.

Though this volume is, for the greater part, compiled from British publications, yet there is enough in it to enable us to form some idea of the state of agriculture in the United States. The most remarkable feature is, the great number and variety of the implements and machines in use. This forms a very striking contrast to the infant state of agriculture in Britain, where, a century ago, there was not more than one kind of

plough, cart, or harrow in use throughout the whole of Scotland, and only two or three sorts in England. The cause of this difference is easily accounted for; the Americans are full of intelligence, and the high price of labour obliges them to seek aid in improved machinery.

ART. V. *Journal of a recent Visit to the principal Vineyards of Spain and France; with some Remarks on the very limited Quantity of the finest Wines produced throughout the World, and their consequent intrinsic Value; an Attempt to calculate the Profits of cultivating the Vine; a Catalogue of the different Varieties of Grape; and an Estimate of the Profits of Malaga Fruits; together with Observations relative to the Introduction of the Vine into New South Wales.* By James Busby, Esq. Small 8vo, 177 pages. London, 1834.

IN our third volume, p. 462., we noticed a *Treatise on the Culture of the Vine, and the Art of making Wine*, by James Busby, printed and published in the autumn of 1825. The work before us is not a reprint of any part of Mr. Busby's former production, but the journal of a tour made in the wine districts of France and Spain, from September 26. to December 22., in 1831. The work was originally printed at Sydney, and is now reprinted here. Our Sydney correspondent, Mr. Thompson, has noticed, in X. 159., that several vineyards have been planted, and wine and raisins made near Sydney; and Mr. Busby observes that the degree of spirit with which the plantation of vineyards had commenced in the colony, and the wine he had tasted, and which was produced in the vineyard at the orphan school, left no doubt, in his mind, of ultimate success. Aware, however, that most of the information on vine culture and wine-making, possessed by the colony, was derived from the practice of a much colder climate, he conceived that a knowledge of the practice in climates more analogous to that of Sydney might hasten the perfection of Australian management. He was also anxious to procure information as to the variety of vine which produces the finest muscatel raisins at Malaga. These raisins are dried in the sun, without undergoing any other process; whereas, the other kinds of raisins are dipped in a lie, to which, in the case of some sorts, oil is added; thus enveloping them in an alkaline or in a soapy crust before they are dried. Hence, while the muscatel raisins, produce at the rate of 25*l.* per acre to the grower in Spain, the other sorts are not worth a fifth part of that sum. Mr. Busby has no doubt whatever of producing muscatel raisins in the colony equal to those of Spain; and in that case, they will form a most valuable article of export.

The colonists, he says, when once they have obtained grapes suitable to their climate, "will require neither great study, nor toil, nor expense, to enable them to make a good wine;" and he adds, "that, by a little attention to a few simple principles, they may easily improve upon the practice of most old wine countries, where error has become a habit, and a blind routine has been sanctioned, or rather consecrated by prescription." Nothing can be more just than these remarks. Settlers in these countries, we are persuaded, would often do better by trusting to their own resources, and thinking and acting for themselves, than by blindly imitating the practices of countries from which they have emigrated. A tour such as that taken by Mr. Busby is most useful, even if it were only to convince us of the necessity of thinking for ourselves. Wine and raisins will, no doubt, in a short time, be articles of export from New South Wales; and the high honour of having been mainly instrumental in bringing about this desirable result will belong to Mr. Busby. We shall now glance over his work.

Mr. Busby arrived at Cadiz on September 26. 1831, and soon after proceeded to the vineyards of Xeres and its neighbourhood. The whole extent of the Xeres vineyards, which produce wine fit for the English market, does not exceed 7000 acres; and about double that extent will also include the whole of a district which produces an inferior wine, generally sent to England as sherry. "A great portion of the wines exported to England under the name of sherry are the growth of Malaga, and are brought round by sea, and transhipped at Cadiz. Most of the sherries sold by retail in England under 40s. a dozen are either of this kind, or of the commonest qualities of the district above alluded to in the neighbourhood of Xeres, known as the vineyards of San Lucar and Port St. Mary." We must refer to the work itself for much curious information respecting the different modes of wine-making at Xeres and other places in Spain, and in Burgundy and other places in France, and of raisin-curing at Malaga; and shall chiefly confine ourselves to glean- ing what we think the most interesting particulars which have reference to gardening and to common agriculture.

In the south of Spain, no garden is ever formed but in a situation where it can be irrigated; and the water for this purpose is drawn from deep wells by what is called a noria, viz., a kind of water wheel, which is described and figured in our *Encyc. of Agr.*, 2d edit. § 744. The ground is laid out in small squares, separated by channels for conveying the water. Each square is a level panel, sunk a few inches below the water-channel; and at one angle of each panel is a small opening in its bank or border for the admission of the water. On the margin of the squares, garlic is commonly planted. The olive is raised from

truncheons of from 8 ft. to 10 ft. in length, and from 2 in. to 3 in. in diameter. "They are sunk about 4 ft. or 5 ft. into the ground; and the part of the truncheon above ground is covered, during the first summer, with a cone of earth or clay, to the height of from 2 ft. to 3 ft.," doubtless to prevent the sun from drying up the sap of the truncheon. Vines, in some places, are trained with single stems to the height of 2 ft. or 3 ft., and then allowed to branch out like gooseberry bushes; they are manured with recent stable dung when it can be got, and the fruit is never found to be injured by it. The prickly pear and aloe, planted on the top of high banks, make a fence that would considerably impede the march of any army. The prickly pear (*Opuntia*), even on a level surface, and raised from short cuttings put in where they are to remain, makes a tolerable fence in two years. "If there is any part of the rural economy of the Andalusians," says Mr. Busby, "which the settler in New South Wales could adopt with advantage, it is the hedge of prickly pears. It is not possible to imagine a more effectual fence, nor one which it would take less trouble to plant or to keep in order." Mr. Busby recommends "a spadeful of manure" to each "leaf or part of a leaf;" that is, to each cutting, for the plant has no leaves (VIII. 616.); but this he will find to be altogether unnecessary. The aloe (*Agave*) is also much used for fences in Spain; but it is considered inferior to the prickly pear, as it does not produce an edible fruit, and it dies off as soon as it has flowered. Xeres is supplied with water by individuals who possess draw wells, several of which are at the distance of a mile or more from the town. The water is raised by a noria turned by a mule, to a cistern of sufficient height to send it to the town in wooden pipes; where it is received in another cistern, under cover in a shop or shed, from which it is retailed out to the inhabitants. Every vineyard of any considerable extent near Xeres has its watchtower; and the cellars in the vineyards are generally surrounded by verandas. All the 267 varieties of grape described by Roxas Clemente (*Encyc. of Gard.*, new edit., § 5222.) are grown in the vineyards of Xeres; but there are three sorts more common than all the rest: these are the Pedro Ximenes and Uva de rey, black; and the Tintilla, black. The food of the vine-dressers throughout the greater part of the year is a watery soup, garlic, prickly pears, grapes, or other fruit, and bread. Bread and garlic, with some kind of fruit, constitute, indeed, the chief food of the labouring classes all over Spain. No farmer lives upon his farm in Andalusia. At seedtime he comes with a sufficient number of people to plough up and sow the land, and then returns to the town till the season of harvest again calls him forth. The corn is collected to a convenient spot, where the

grain is trodden out by horses and cattle, and the straw is most generally burned; and thus closes the labours of the year. "At one place," says Mr. Busby, "I saw seven men ploughing, each with a pair of oxen, and following each other in the same furrow. The oxen were yoked by the head." The plough was little better than a pointed stick; and these seven ploughs, following in the same line, did little more than scratch the surface of the ground. In travelling through the country, it is customary to pay a sort of black mail to the chiefs of the banditti or their agents; and to such a system is this reduced, that the banditti have regular toll houses for collecting their tribute. (p. 29. and 37.) At Seville, the sweet orange is more cultivated than the bitter. The latter, as our correspondent Mr. Spence found in Italy (VII. 224.), is much the hardier variety, and is always used as a stock both for the sweet orange and the lemon. The orange groves are reckoned of great value, though the fruit is not much eaten by the natives, and the tree is seldom found in private gardens. The trees are planted 20 ft. or 22 ft. apart each way; and, in good seasons, yield from 1000 to 1500 oranges each. During summer they are irrigated every ten days. There are seldom two good crops in succession, whether of oranges, or of grapes, olives, pomegranates, or any other fruit; which must be owing, in some degree, to bad management, though mainly, no doubt, to the seasons.

At Malaga Mr. Busby arrived on October 21. It is remarkable that the proprietors of vineyards here have found that a dark-coloured soil is the best on which to dry their raisin grapes, in the same manner as the inhabitants of some parts of the Alps have learned to throw black earth upon snow, to increase the force of the sun's rays in melting it. The muscatel grapes are only grown on a very limited surface, and never farther than two leagues from the coast. "There are three distinct sorts of raisins; first, the muscatels, which are the finest, and are always packed in boxes of 25 lb. each, and half and quarter boxes; secondly, sun or bloom raisins, which are prepared like the muscatels, but from a different grape, and which are generally packed in boxes, but sometimes in casks; and, thirdly, the *lexia* raisins, which are packed in casks, or in grass mats called *frails*. These raisins are of an inferior kind, and require to be dipped into a *lexia*, or lie, of wood ashes, with a little oil, before drying." (p. 45.) The grass mats here alluded to are made of the *Stipa tenacissima*, which also forms the ropes to which the *noria* baskets are attached; and which, indeed, is applied to a great variety of purposes. Some of the vine-growers had McCulloch's *Commercial Dictionary*, and had adopted his recommendation of employing sulphate of potass in the wine-press;

others pursued a plan recommended in Dr. Ure's *Dictionary of Chemistry*. The sugar cane has been cultivated by a few individuals in the neighbourhood of Malaga for upwards of a century, and is now rather on the increase. The soil is in general of a loose sandy quality; but it is richly manured, and regularly watered. The Otaheite cane is the variety principally planted. This cane grows as thick as a man's arm, and is from 18 ft. to 20 ft. high. From Malaga, Mr. Busby sent to England a box containing 500 cuttings of vines of different kinds, and also dates, Jordan almonds, and onion, melon, and other seeds, which he afterwards shipped for Sydney.

In the beginning of November, Mr. Busby took shipping for Catalonia, landed at Roxas, and proceeded over land to Perpignan, in France. Here he was shown the extensive agricultural establishment of Messrs. Durand, bankers, even though he had no letter of introduction to them. The culture both of the vineyard and the corn field in this part of France appears to be of a very inferior description. In planting a vineyard, the ground is merely once ploughed, and the cuttings thrust in with an iron bar, and left to take their chance. They are pruned every year, but never manured. On one of M. Durand's estates there is a handsome mansion, with extensive gardens and a green-house; and Mr. Busby was happy to promise to assist in stocking the latter with Botany Bay seeds. From the director of the Botanic Garden of Montpellier, M. Delille, M. Busby received the greatest attention, and cuttings of nearly 500 varieties of grape, with a packet of seeds for the Sydney Botanic Garden. Professor Delille showed him the cow tree (*Galactodéndron*) and the St. John's bread (*Ceratonia*), and informed him that both of these useful trees would in all probability thrive in New South Wales. At Tarascon the Messrs. Audibert conducted Mr. Busby through their extensive nurseries, which he found very well kept; entertained him at their house for a day and a night; and gave him numerous seeds and cuttings, and even rooted plants, of some varieties of grapes; for none of which articles would they receive any payment whatever, though he called on them without any introduction. They even taught him an improved manner of packing plants, which we have given elsewhere. (X. 451.) In the neighbourhood of Marseilles the manner of cultivating the caper was pointed out. Offsets are planted 4 ft. apart every way, and cut down to within 1 ft. of the ground every year. A plantation will not last forty years; every bush producing, on an average, $1\frac{1}{2}$ lb. of capers annually. There can be no doubt that the caper bush would succeed perfectly in New South Wales. We recollect that, when Mr. MacLeay, the colonial secretary, left London, he took with him seeds of *Euphórbia Láthyris*, which is used as a substitute for capers in

Paris, intending to sow them for the same purpose in the colony. From Tain, on the Rhone, Mr. Busby went to the Hill of Hermitage; of which he gives the following account:—"The Hill of Hermitage is so called from an ancient hermitage, the ruins of which are still in existence near its top. It was inhabited by hermits till within the last 100 years. The hill, though of considerable height, is not of great extent; the whole front which looks to the south may contain 300 acres; but of this, though the whole is under vines, the lower part is too rich to yield those of the best quality, and a part near the top is too cold to bring its produce to perfect maturity. Even of the middle region, the whole extent does not produce the finest wines. M. Machon, the gentleman whose property we were traversing, pointed out to me the direction in which a belt of calcareous soil crossed the ordinary granitic soil of the mountain; and he said it requires the grapes of these different soils to be mixed in order to produce the finest quality of Hermitage. I took home a portion of the soil which he pointed out as calcareous; and the degree of effervescence which took place on my pouring vinegar upon it indicated the presence of a considerable portion of lime. It is probably to this peculiarity that the wine of Hermitage owes its superiority; for, to all appearance, many of the neighbouring hills on both sides of the Rhone present situations equally favourable, although the wine produced, even upon the best of them, never rises to above half the value of the former, and, in general, not to the fourth of that value. A good deal may also be attributed to the selection of varieties. The best red wines of Hermitage are made exclusively from one sort of grape, which is named Ciras, properly spelled Scyras, which is thought to be a corruption of Shiraz, in Persia, whence this grape is said to have been brought originally, by one of the hermits of the mountain. The white wines are made from two varieties, the Roussette and the Marsan. The former yields, by itself, a dry and spirituous wine, which easily affects the head, and the plant produces indifferently; the latter yields a sweeter wine: they are mixed together to produce the best white Hermitage." (p. 108.) The vines of the Hermitage are strongly manured; and the proprietor said that, without frequent and strong manuring, the vines would scarcely yield anything; adding, that providing only horse or sheep dung were used, there was no danger of giving the wine a bad flavour; which the dung of cows, and especially of pigs, seldom failed to do.

One of the most remarkable practices in the culture of the vine, and the management of the vineyards, is what is called *provignage*, by which the vine is rendered a travelling plant. It is but slightly practised in Spain; but is almost universal in France, except on very rich soils. We have already described

it in our first volume, and need here only remind our readers that it consists in entirely burying the plants, except the points of their shoots, at various periods, from three to fifteen years. By this means, a plant at one end of a vineyard may ultimately reach, under ground, to the other end. The underground shoots do not decay for many years, and may sometimes be found nearly 100 ft. in length. The object seems to be to get young bearing wood, without ever missing a crop, which would be the case, if the plants were raised either from cuttings inserted where they were to remain, or from detached rooted plants. As the trenches in which the plants are laid are generally made as deep as the soil will permit, a great part of the benefit is probably a consequence of this thorough stirring of the soil. The following is Mr. Busby's account of this practice:—

“By dint of frequent observations and repeated questions, I conceive that I at last perfectly understand the system of *provignage*. To make it plain, suppose a small portion of ground to be annually planted with vines. At the end of ten or a dozen years, a number of the plants, in the portion first planted, become weak and worn out. These weak plants are removed, and their places filled by provins from their stronger neighbours; but these provins are not mere layers which leave the stock exactly as before. The whole space of ground, generally the breadth of two rows of plants, is dug out to the depth of about 2 ft.; the old stock is then laid flat down in the bottom of the trench, and the branches, that is, the wood last produced, are twisted and bent into the places where the voids are to be filled. The stock is thus converted into the root of two or three different plants: it throws out fibres from every side, which henceforth yield the nourishment to the plants, and the old root dies off. I observed some spots where all the plants had been too weak; and a colony of young plants, as it was called, had been introduced, which would be employed in peopling their neighbourhood when they had acquired sufficient strength. The *provignage* extends irregularly over the whole vineyard; but most, or all, of the plants are thus buried, and renewed once in twelve or fourteen years; and thus the whole is in a constant state of bearing (the provins yielding a crop the first year), and it is seldom necessary to introduce young vines.”

Mr. Busby's concluding observations are highly valuable:—

“Having recorded with so much minuteness my observations on every vineyard and district through which I passed, I will avoid adding to the length of this journal by offering many general remarks. I cannot, however, refrain from observing, that, from the albarizas of Xeres, the most southern vineyards of any reputation in Europe, to those of the chalky hills of Champagne, amongst the most northern, I met with no vineyard producing dry wines of reputation which was not more or less calcareous. Although it is acknowledged that two thirds of the vineyards of France are situated upon soil more or less calcareous, by Chaptal, and other writers upon the subject, they have stated that, provided the soil is porous, free, and light, its component parts are of little consequence; and they enumerate granitic, schistose, argillaceous, flinty, sandy, and calcareous soils as equally well qualified to produce, and as actually producing, in different parts of France, wines of the finest quality. It appears evident to me, however, that these writers have, in many instances, been misled by the representations which have been transmitted to them: as, for instance, when Chaptal and Cavoleau* cite the wine of Hermitage as an

* “*Cœnologie Française, ou Statistique de tous les Vignobles de France. Paris, 1827.*”

instance of the excellence of wines produced upon the debris of granite; while the fact is, that the wine of the hill of Hermitage owes its superiority over the wines of the other hills in its neighbourhood only to the circumstance of the granitic soil of a part of that hill being mixed with calcareous matter; and, but for this circumstance, I am satisfied that the wine of Hermitage would never have been heard of beyond the neighbourhood where it grows. I am therefore of opinion, that the finest dry wines owe their superiority chiefly to the quality of the soil; and I am much mistaken if it be not found that the soils of all vineyards producing dry wines of superior excellence are strongly calcareous. All my observations have led me to this conclusion, and I know of no instance to the contrary. It will be observed, that I here only speak of dry wines, for sweet wines of great excellence are produced in a variety of soils, and, in fact, owe their qualities more to the variety of the grape, and the manner in which it is treated, than to the soil. The sweet *Muscat* and *Old Mountain* wines of Malaga are celebrated all over the world; but though they have the same varieties of vines at Malaga as at Xeres de la Frontera, and pursue a similar practice in making the wine, the best of their dry wines, produced on a soil consisting of decomposed slaty schist, are insipid and flavourless when compared with the Sherries which are produced on the chalky hills of Xeres. The sweet wine of Rivesaltes, the most celebrated in France, is produced on a granitic soil covered with pebbles; and the sweet wines of Cosperon and Collioure, in the same department, are produced on hills of schist, as nearly as possible resembling those of Malaga. But though the dry wines of both these soils are well known, they are not distinguished for their fineness or flavour. Their excellencies are their strength and rich colour, which make them valuable for mixing with the weak and light-coloured wines of the ordinary growths of Burgundy and Maçon which supply the chief consumption of Paris.

The limited extent of the first-rate vineyards is proverbial, and writers upon the subject have almost universally concluded that it is in vain to attempt accounting for the amazing differences which are frequently observed in the produce of vineyards similar in soil and in every other respect, and separated from each other only by a fence or a footpath. My own observations have led me to believe that there is more of quackery than of truth in this. In all those districts which produce wines of high reputation, some few individuals have seen the advantage of selecting a particular variety of grape, and of managing its culture so as to bring it to the highest state of perfection of which it is capable. The same care has been extended to the making and subsequent management of their wine, by seizing the most favourable moment for the vintage — by the rapidity with which the grapes are gathered and pressed, so that the whole contents of each vat may be exactly in the same state, and a simultaneous and equal fermentation be secured throughout — by exercising equal discrimination and care in the time and manner of drawing off the wine, and in its subsequent treatment in the vats or casks where it is kept — and, lastly, by not selling the wine till it should have acquired all the perfection which it could acquire from age, and by selling, as the produce of their own vineyards, only such vintages as were calculated to acquire or maintain its celebrity. By these means have the vineyards of a few individuals acquired a reputation which has enabled the proprietors to command almost their own prices for their wines; and it was evidently the interest of such persons that the excellence of their wines should be imputed to a peculiarity in the soil, rather than to a system of management which others might imitate. It is evident, however, that for all this a command of capital is required, which is not often found among proprietors of vineyards; and to this cause, more than to any other, it is undoubtedly to be traced, that a few celebrated properties have acquired, and maintained, almost a monopoly in the production of fine wines."

When Mr. Busby arrived in London, he offered to place his collection of nearly 500 varieties of vines at the disposal of

government for the Sydney Garden; and requested permission to have them immediately packed and shipped for the colony for that purpose. This accommodation being granted,

“ I set about having the plants transferred to more substantial packages, and packed in sand and earth, in order to enable them to sustain the vegetation which would result from the hot weather in passing the tropics. By the invitation of Mr. Richard Cunningham, then of the Royal Gardens of Kew, and since, fortunately for the colony, appointed Colonial Botanist of New South Wales, I transferred the cases to Kew, where Mr. Cunningham himself superintended their packing; and I feel persuaded that to his care I am, in a great measure, indebted for the excellent condition in which they arrived at Sydney. Mr. Cunningham also found the cuttings sufficiently long to afford a short cutting from each. These he took the trouble to plant out in open boxes, and before leaving England he had shipped them on board the Camden convict ship for Sydney, in such excellent condition, that he expresses himself as having no doubt of their safe arrival; and he is also confident that the deficiencies in the first importation may be made good from them. Should Mr. Cunningham's anticipations in this respect be realised, I will have the satisfaction of having transferred to the colony, without any expense to the public, and almost in a complete state, a national collection of vines, which it was for three quarters of a century the favourite project of writers on agriculture, and agricultural societies in France, to collect, and which was at length accomplished at a very considerable expense to the country, by the Count de Chaptal, when Minister of the Interior under Buonaparte.”

The volume concludes with a catalogue of 454 varieties of grape; all of which were, on January 22. 1833, alive in the botanic garden at Sydney; and most of them in the highest health and vigour, owing to the great care and zeal of our correspondent Mr. M'Lean, then acting as curator previously to the arrival of Mr. Cunningham.

Independently of the instruction which we have received from this little volume, we have been much gratified by its perusal on several accounts; the patriotic views, the indefatigable industry, and the zeal of Mr. Busby; the kind and hospitable reception which he everywhere experienced; and, contrary to the selfish maxims which used to be thought politic between persons of the same trade or pursuit, the liberal and unreserved manner in which every description of information that he sought for was given to him, and not only information, but plants, cuttings, and seeds. When we consider that all this happened in a country like Spain, where the cultivators, with the exception of foreigners, are remarkable for their ignorance; and in France, where the people, only a few years ago, were considered by the first British statesmen as “ our natural enemies,” there is surely evidence of improvement; and we cannot help anticipating in our minds what the progress of this improvement will one day lead to, when commerce and every description of intercourse shall be more frequent and free.

ART. VI. *The Fruit Cultivator ; being a practical and accurate Description of all the most esteemed Species and Varieties of Fruit cultivated in the Gardens and Orchards of Britain ; with Directions for the Raising, Choosing, and Management of the proper Stocks ; Modes of Planting, Training, Forcing, and Pruning the Trees or Plants ; together with Directions for forming Fruit Borders, &c.* By John Rogers, Nurseryman, formerly of the Royal Gardens. 12mo. London, 1834. 6s.

THE author "has, during a long life of varied and active employment, made and kept notes of the results of his practice ; which he now, in his eighty-third year, is induced to offer to the young gardener and nurseryman as a fund of information which, he trusts, will not be found unworthy of their notice." (p. vii.) The work may be described as an amplified catalogue of fruits ; including, as a commencement to each particular list, general remarks on soil, situation, planting, management, &c. It is, therefore, fully entitled to the denomination of a Fruit Cultivator ; and there cannot be a doubt but that every part is strictly practical. The principal question that it occurs to us to ask is, are the names used by Mr. Rogers applied by him to the same fruits as they are in the *Fruit Catalogue of the Horticultural Society*, *Lindley's Guide*, and the *Pyrus Malus Brentfordiensis* ? Perhaps, in numerous instances, it was not in the power of Mr. Rogers to state whether this was the case or not ; but still, in the greater number of cases, he might, and, we think, ought, to have done so. He would thus have brought his book into harmony with other works of the same kind ; and more effectually have conduced to the spread and application of the knowledge which he has contributed to the common stock. For this reason, in a new edition, we would recommend Mr. Rogers to place as many synonymes after his names as he can do with certainty.

There are a few very trifling errors, which might be corrected in a second edition. Such as "Braddick of Bury Hill," p. 4. and 293., for "Braddick of Thames Ditton ;" Lancelot Brown, the gardener at Hampton Court, is confounded with Lancelot Brown, the celebrated landscape-gardener, p. 84. : and Loudon and Wise is printed instead of London and Wise in several places ; a mistake which was also committed, some years ago, in the *Quarterly Review*, in an article on planting and gardening, by Sir Walter Scott.

Having pointed out these few mistakes, it remains only to say, that we think Mr. Rogers has here produced a most valuable practical work, which deserves to be in universal use ; and which adds to its other recommendations that of cheapness.

ART. VII. *Catalogue of Works on Gardening, Agriculture, Botany, Rural Architecture, &c., lately published, with some Account of those considered the most interesting.*

MANTELL, J., F.L.S.: Floriculture; comprising the General Management and Cultivation, and Propagation of Stove, Green-house, and Hardy Herbaceous Plants, Hardy Trees, and Shrubs. Royal 8vo, 2d edit. Lewes, 1834.

This treatise was originally published as a contribution to Baxter's *Library of Horticultural and Agricultural Knowledge*, and was favourably received by the public; as, indeed, it well deserves to be. It contains 52 printed pages, for which 7s. 6d. are charged; and yet, notwithstanding, it has arrived at a second edition.

The Committee of the Doncaster Agricultural Association: A Report on the Turnip Fly, and the Means of its Prevention; founded on Returns received to the Questions of the Committee, from 102 Correspondents in different Parts of England and Scotland. 8vo, 89 pages. London, Ridgway, 1834.

A sure step towards the gaining of knowledge is said to be the ascertaining what it is that we know not. The present work has, in relation to the subject of it, the merit of teaching us what is known, and what remains to be learned. With regard to the economy of the turnip beetle (erroneously called a fly), several scattered rays of information are imparted; but it is frankly admitted that, as to the place, time, and course of its production through the stages of egg, larva, and pupa, into that of the imago or winged state, next to every thing remains to be discovered. As, until we have ascertained the resources of an enemy, we cannot cut them off, and cannot, accordingly, hope to achieve a conquest; so it will be plain, from what has been stated, that it may yet remain wholly unknown what may be best to be done to secure, to the greatest extent, crops of turnips from the ravages of the beetle. We place, nevertheless, before our readers a copy of the committee's summary of practical directions, which they have deduced from the information they had received. The summary is as follows:—

“ 1. That, most effectually to insure the speedy growth of the plant, the land should be kept in the best possible state of cultivation.

“ 2. That scuffling or ploughing the land before winter, and clearing the hedge-bottoms, and every other place which can harbour the insect, should be systematically attended to.

“ 3. That the fallow should be completed as early as possible, so as to give an opportunity for choosing a favourable season for sowing.

“ 4. That the system of ridging the land, with manure under the rows, and drilling on the ridge, be in every possible case adopted.

“ 5. That the most favourable opportunity for ridging be chosen; particularly that the land be not ridged in too dry a state.

" 6. That, as soon as the land is opened for the manure, it be laid in; the ridges formed, and the seed drilled immediately. The quicker these operations follow each other, the better chance of the crop.

" 7. That the manure chosen be such as will be adapted to the soil, and insure the speediest growth of the young plant; and that a full quantity be allowed.

" 8. That the seed be not deposited in the manure; but the manure be thinly covered with soil, and the seed drilled in this soil.

" 9. That a very liberal allowance of seed be given; as much as 3 lb. or 4 lb. an acre for drill, and 6 lb. or 7 lb. for broadcast; and that this seed be of one year's [not different years'] growth.

" 10. That, as soon as the plant appears above ground, it be dusted with quicklime; and this be repeated as often as rain or wind beats it off, and the fly reappears.

" 11. That, in places which suit, and in seasons particularly dry, watering by a watering-machine be resorted to.

" Under these precautions, the committee confidently trust that the loss of crop from the turnip fly may be, in most cases, prevented."

For the detail of facts and opinions which have led the committee to these conclusions, recourse must be had to the work itself.

Sopwith, T., Author of *Geological Sections of the Lead Mines on Alston Moor and Teesdale*, and of a *Descriptive Account with Architectural Details of All Saints' Church, in Newcastle upon Tyne: A Treatise on Isometrical Drawing, as applicable to Geological and Mining Plans, Picturesque Delineations of Ornamental Grounds, Perspective Views, and Working Plans of Buildings and Machinery, and to General Purposes of Civil Engineering; with Details of improved Methods of preserving Plans and Records of Subterranean Operations in Mining Districts.* With 34 copperplate engravings. 8vo. London, 1834.

So little is isometrical perspective, or rather isometrical projection (for perspective it is not), known to architects, that, when the designs of farm buildings, in our *Encyclopædia of Architecture*, first appeared, many London architects considered them as intended to be drawn in that sort of bird's-eye perspective which was formerly used in giving plans of the grounds of the nobility and gentry. It may be seen in numerous French works; for instance, those of Le Rouge, and in the English work of Kipps. Isometrical projection, we are informed by Mr. Webster, the geologist, was taught in Aberdeen when he was a boy. We believe, however, that it was first reduced to fixed principles by Professor Farish of Cambridge; and first applied in practice by Mr. Joplin, the author of an excellent little work on the subject (*The Practice of Isometrical Perspective*, 8vo, 4s.); and in Westall's *Designs for Farm Buildings*, published in 1827.

In Mr. Joplin's works, this mode of drawing is chiefly applied to architectural subjects; but in Mr. Sopwith's it is extended,

as the title of his book shows, to those kinds of plans or maps given by land-surveyors, surveyors of mines, and more especially by landscape-gardeners. For the purpose of the latter, isometrical projection is as admirably adapted as it is for architecture; and we cannot but recommend Mr. Sopwith's work most strongly, both to gardeners and land-surveyors. To land and mine surveyors it is, indeed, indispensable; nothing of equal importance to it having appeared since Mr. Horner published his *Improved Method of Land-Surveying* in 1810.

Bagster, Samuel, jun.: The Management of Bees; with a Description of the "Ladies' Safety Hive." 12mo, 40 wood engravings. London, 1834..

The publications on bees, as every gardener knows, have been sufficiently numerous of late years. Many of them are ingenious, though but a few have been of any practical use. The great object is, to reduce the management of bees to a few simple general principles. Among these may be included the principle of limiting the increase of numbers to the quantity of food; that is, to the flowers which the given locality affords. This, Mr. Nutt and Mr. Bagster have proved, is to be done by keeping the bees moderately cool, and thus preventing them from swarming. A second principle is, to keep the bees constantly working; and this is effected by the operation of the first principle, and by depriving them of their honey as it is produced. The remaining principle is, to preserve and improve the cultivated variety of bee. This is done by never allowing them to be starved for want of food; and by never allowing the larvæ to be reared in old cells. These cells become smaller with age, in consequence of the thickening of their sides, owing to every larva hatched in each leaving the membranous covering that had invested it behind it in the cell; and the smaller they are, the smaller will be the bees produced in them. We merely throw out these ideas, to show what we mean by general principles; and to remind gardeners that there is such a thing as cultivation and improvement in insects as well as in plants. We are, perhaps, too apt, when seeking for principles of cultivation, whether of animals or vegetables, to rely on the efficiency of imitating nature; but neither in the useful nor in the fine arts must the principle of imitating nature be confounded with the power of making fac-similes of her productions. The object of cultivation is to improve, not to reproduce: improvement is alteration; and how is alteration, as an end, to be effected, without alteration as a means? We are not quite sure that Mr. Bagster's mode is the best hitherto discovered for cultivating the bee; but we certainly think it appears to be so: and we most cordially recommend his book to every one who wishes to practise bee culture on improved and rational principles.

MISCELLANEOUS INTELLIGENCE.

ART. I. General Notices.

THE Buds, Twigs, and Branches of Trees are really so many Plants, growing on one another; for as they all proceed from buds, or may rather be said to be buds expanded, we may thence infer that the buds they came from did, in every respect, perform the office of a seed. The buds take root in the twigs, the twigs take root in the branches, and the branches take root in the stem. All these, taken separately, may be made to take root; and even the roots of a tree, being cut to pieces, and planted after a proper method, will vegetate and become perfect trees. All this, and much more, has been shown by Dr. Agricola of Ratisbon, in his *Philosophical Treatise on Agriculture*, which I have translated. (*Bradley's Works of Nature*, 1721, p. 42.)

Naturalisation of Plants. — Heat being found to increase or decrease nearly in a regular progression, according to the degrees of latitude, if we know the mean annual temperature of any one latitude, and know also the latitude in which the plant has been found, we may know the temperature it requires, with certain exceptions, depending on elevation above the sea, the presence of lakes or other bodies of water, or the shelter, shade, or reflection of woods, rocks, mountains, &c. Thus, if the mean annual temperature of London be 54° , by adding one degree of heat for every degree of latitude southward, and subtracting one for every degree of latitude northward, we shall have the temperature sufficiently near for general purposes; always, however, subject to the modifications caused by the above accidental circumstances. Water freezes at 44° of latitude on the European continent; while, on the American continent, it freezes at 34° in the month of January. Three hundred Lapland plants are found in the neighbourhood of Paris, and many of them farther south. Some Lapland plants are even natives of India, such as *Nymphæa*, *Drósera*, *Sagittaria*, &c. (*Templeton*.)

Covering Wall-Fruit Trees with Ivy was practised by R. Gole, Esq. F.R.S., in January, 1744; the result of which was, that he had vast quantities of apricots and peaches, while his neighbours had hardly any. (*Phil. Trans. Abrid.*, x. 793.)

Plants were grown in Moss by C. Bonnet of Geneva, F.R.S., in 1746, and found to thrive perfectly. He tried wheat, barley, oats, and peas, pinks, gilliflowers, daisies, tuberose, tulips, hyacinths, narcissus, and cuttings and layers of vines. (*Phil. Trans. Abrid.*, x. 796.)

Transplanting large Trees. — At Eastbury, in Dorsetshire, was formerly an extremely magnificent seat, erected by the facetious George Bubb Doddington, Esq., afterwards Lord Melcombe Regis. The expense of building amounted to upwards of 140,000*l.* The gardens were very extensive, and ornamented with canals and various plantations of trees, many of which were brought thither after fifty years' growth, and from the distance of several miles. (*Beauties of England and Wales, Dorsetshire*, p. 417.)

ART. II. Foreign Notices.

BELGIUM.

FOREIGN Trees of the Netherlands. — I shall send your Return Papers to all my horticultural friends in this country; and they are numerous both among gardeners and amateurs. American trees and shrubs thrive remarkably well both in Holland and the Netherlands; and you will be surprised to find how many species and varieties of magnolias are cultivated here. The hot summers and cold winters, and the sandy peat soil, and abundance of water, make this country seem to resemble North America more than any other part of

Europe with which I am acquainted. M. Musch of the Botanic Garden of Ghent will, I am sure, give me a good deal of valuable information, and the dimensions of all his fine specimens. I would recommend you to write to M. le Brument, Rue Ricler, No. 26., à Paris: he is capable of giving you much information. [Perhaps M. Vilmorin will be kind enough to speak to this gentleman for us.] The *Horticulteur Belge* translates all the principal papers in your *Gard. Mag.*; and that of Joseph Knight has made a good deal of noise, both in the former work, and in some of the newspapers here. I am preparing for you the horticultural experience of the six years I have been in this country. [We shall be most happy to receive it.] — *John Maddison. Wondelgem, near Ghent, Dec. 6. 1834.*

GERMANY.

Vienna, Nov. 20. — Every thing shall be done for your general history of the trees of temperate climates. You say you have received from Baron Jacquin a plan and description of the Botanic Garden of the University. That garden was enlarged about ten years ago, and the most complete collection of hardy trees and shrubs planted in it which at present exists in Germany. Not only are all the species included, but even the varieties; and ample space is allowed to each to display its natural shape. You shall have the dimensions of all of them; and, as far as my influence goes, of all the remarkable trees within twenty miles of Vienna. The variety, as you know, at Schoenbrunn is not great; but still there are some fine specimens. Schmidt, I find, is dead; and his *Baumzucht*, with its beautiful plates, is limited to three volumes. I have procured you that and several other works, which Mr. Simpson will bring with him. You have probably heard of the death of M. Antoine. . . — *J. Gott.*

Stuttgart, Oct. 23. 1834. — We have commenced here a cheap magazine of gardening and agriculture, entitled, *Feld- und Garten-Zeitung für Jedermann*. It is arranged a good deal like your *Gardener's Magazine*. Our botanical lessons are going on, and our scholars increase daily. I gave six lectures on practical and scientific gardening last spring, which were attended by some of the principal gentlemen of Stuttgart. Our library is also increasing by degrees. We should be glad to receive books, plants, or seeds, through Mr. Hunne- mann or Mr. Nebinger. — *W. Hertz.*

AUSTRALIA.

The South Australian Association, the office of which is at 7. John Street, Adelphi, give information to persons disposed to settle in this new and promising colony; and a work, entitled *The New British Province of South Australia, or a Description of the Country, illustrated by Charts and Views, and an Account of the Principles, Objects, Plan, and Prospects of the Colony*, has been published by Mr. Charles Knight. What is rather extraordinary is, that there has been formed, by the same parties, a South Australian Literary and Scientific Association, established August 29. 1834; the objects of which are, "the cultivation and diffusion of useful knowledge throughout the colony." By a pamphlet before us, containing the "laws" of this Association, it appears that subscriptions and donations of money, books, specimens, models, and apparatus are received, lectures given, and periodical meetings for conversation held. There is a sub-committee especially devoted to the collecting of information relative to agriculture. The list of books forming the library of the Association is already very considerable.

Swan River Colony. — It appears that some of the trees are of a very gigantic size, a species of mahogany measuring upwards of 30 ft. round the trunk. An aromatic cedar is the chief fuel, which dispenses a very fragrant perfume. The farmers are improving the land, by raising, clearing, and fencing, and the government is making roads and good mahogany bridges. A considerable breadth of land had been sown with wheat, oats, barley, and rye; and a great quantity of potatoes had been planted, which had produced good crops of excellent quality.

Good wheat, oats, and rye were growing. The harvest was expected to end in the middle of December, and to be a good one. The climate was fine, and the air cheering and exhilarating. Very little thunder has been experienced since the formation of the colony. Kangaroo flesh is abundant, and very good food. Milk, fresh butter, and very good bread are abundant; also Cape wine, vegetables, and sometimes wild ducks and fish. (*Extract from a Letter from the Swan River, in the Hull Advertiser, May, 1834.*)

Our Correspondents at the Swan River, Van Diemen's Land, and Sydney will much oblige us by stating what species of European timber and ornamental trees have been introduced into these colonies, how they thrive, in what year they were first planted, and what size they have attained. Many species, we know, have been planted in the Government Botanic Garden at Sydney; and, for an account of them, we some time ago sent a Return Paper to the curator, Mr. Cunningham, to which we are certain he will pay due attention. — *Cond.*

ART. III. Domestic Notices.

ENGLAND.

THE New Forest in Hampshire consists altogether of 63,000 acres; 6000 of which are well enclosed, and planted with oak timber trees, between rows of Scotch pines and sweet chestnuts, as a protection from the destructive winds. The enclosures consist of from 100 acres to 500 acres each, and are well fenced in from the deer and numerous cattle of the forest. As the young oaks grow into wood, the pine and chestnut trees are lopped and removed. We never witnessed a plantation, even on a small scale in a nursery, in a more healthy and growing state than are the young oaks in these enclosures. In the open part of the forest are numerous woods of full-grown timber trees; large quantities of which are occasionally cut down, the best being used or preserved as timber for the British navy, and the inferior timber sold for various purposes. The forest is under the management of Mr. Robt. Turner, whose ability in the plantation and protection of the young trees is the admiration of the country, and of foreigners in particular. (*Portsmouth Herald.*) Mr. Page of Southampton kindly promised, above a year ago, to furnish us with some information respecting the different modes of planting adopted in different parts, and by different persons, in the New Forest; and we expect shortly to hear from him on the subject. — *Cond.*

The true Love Apple. — A splendid shrub, 10 ft. or 12 ft. high, under this name, has lately flowered in Miller's Nursery, Bristol, and is now (Jan. 2. 1835) covered with egg-shaped fruit, of a deep crimson colour. The fruit are about the size of those of *Passiflora quadrangularis*, and hang down in the same manner, but in clusters of three and four. Mr. Miller has not been able hitherto to propagate the plant either by cuttings or layers, but he hopes now to be able to do so from seeds. It is not unlikely that this plant may be found to be half-hardy. It is, we learn, the *Solanum betaceum* of *Hort. Brit.*

The Bee-flowered Ophrys (*Ophrys apifera*) abounds on the rocks in this neighbourhood. The height it usually attains here is from 7 in. to 12 in.; but a plant of it, which I last year transplanted into a pot, in October, just as it began to appear above ground, and placed in a warm room, grew rapidly, and flowered in April. Its appearance was then splendid; for the flower-stem was nearly 2 ft. long, and covered from the top to the bottom with its singular bee-shaped blossoms. I am convinced that this curious and beautiful flower may be greatly improved by cultivation; and I shall be happy to send you or any of your correspondents tubers of it. — *R. Dyneley Chamberlain. Skipton in Craven, Nov. 19. 1834.*

Plants in Flower in the open Ground at Whitmore Lodge, the Residence of Robert Mangles, Esq., near Sunning Hill, Berkshire, from which a Nosegay was

gathered on Christmas Day, 1834. Communicated by Mr. Donald Mackay, Gardener there : —

Ranunculaceæ. *Aneinone coronària* var., *Delphinium Ajàcis*.

Cruciferae. *Iberis semperflòrens*, *Alýssum saxàtile*, *Arabis præ'cox*, *Aubrieta deltòidea*, *Cheiranthus mutàbilis* and *Cheiri* var., *Matthiola ànnua* and *simplicicaulis*.

Calycànthæ. *Chimonánthus fràgrans*.

Malvaceæ. *Lavatera thuringiaca*, *Málva capénsis*.

Ternströmiaceæ. *Thèa víridis*.

Onagràriæ. *Oenothèra serótina*, *Fúchia grácilis* and *microphýlla*.

Rosaceæ. *Ròsa Báncsia* álba, índica ; and the varieties sanguínea, subálba, flavescens, pùmila, and Noisette. *Potentilla formòsa*.

Pomáceæ. *Cydònia japónica*.

Legumínosæ. *Coronilla glàuca*, *Lupinus ornàtus* and *mutàbilis* var. *Cruckshanksianus*, *Ulex europæ'a* fl. pl.

Resedaceæ. *Reseda odoràta*.

Geraniaceæ. *Eròdium Gussòni*.

Polygaleæ. *Polýgala Chamæbúxus*.

Violaceæ. *Viola hirsùta* and *trícolor* var.

Ericaceæ. *Erica carnea* and *carnea herbàcea*, *Dabæ'cia* (*Menzièsia*) *poliifolia*, *Arbutus Andràchne*, *U'nedo*, and *U'nedo ruber*.

Plumbagíneæ. *Armèria* (*Státice*) *dianthòides*.

Dipsaceæ. *Asterocéphalus* (*Scabiòsa*) *atropurpùreus*.

Compositæ. *Achillèa tomentòsa*, *Aster fruticulòsus*, *Calliòpsis bícolor* ; *Chrysánthemum sinénse*, many varieties of ; *Erigeron purpùreus*, *Eriophýllum cæspitòsum*, *Calliopèa àurea* (*Hieràcium àureum*), *Centrocárpha chrysómela* (*Rudbeckia Newmàn*), *Senecio élegans* fl. pl., *Tussilàgo fràgrans*.

Caprifoliaceæ. *Viburnum Tínus* and *lucidum*.

Gentianæ. *Gentiana acaulis*.

Polemoniaceæ. *Gilia achilleæfòlia*, *Phlòx setàcea* and *tardiflòra*.

Primulaceæ. *Primula vulgàris* fl. pur. pl.

Scrophularíneæ. *Antírrhinum majus* var., *Linària triornithóphora*, *Mímulus glutinòsus*, *Calceolària rugòsa* and *bícolor*.

Solaneæ. *Petùnia phœnícea*. *Acanthaceæ.* *Acánthus spinòsus*.

Labiátæ. *Sálvia fulgens* and *angustifòlia*. *Liliaceæ.* *Tritoma mèdia*.

SCOTLAND.

Species of Orchideæ, wild, in the Vicinity of Dundee, Perthshire. — The most abundant species of our orchideous plants is the *O'rchis máscula* ; which, in the spring months, is really a graceful ornament to our woods and braes, clothing them with its mantle of purple grandeur. The flowers vary much in colour ; and a variety with rose-coloured flowers is esteemed a favourite. In our meadows, the *O. maculàta* and *latifolia* are plentiful ; varying exceedingly in size and colouring, according to the nature of the locality. The *Gymnadenia conópsea*, imparting to the air of summer its rich and grateful fragrance, is occasionally met with in the woods ; and more frequently on the Sidlaw Hills, associated with the *Habenària bifolia*. The *Lístera cordàta* is not uncommon in dry woods ; and the *L. ovàta* and *L. Nidus àvis* occur sparingly in the beautiful grove of Birkhill, near Balmerino, on the south side of the river Tay. The rarest of this tribe with us is the *Corallorhiza innàta*, which was observed by my uncle, in Meriemoor Wood, some years ago ; but, although it has since been sought for with enthusiastic eagerness, has never again been found : so that it has probably become the prey of some merciless collector. It is much to be regretted that collectors will not take an example from Nature, and cull with a sparing hand where she has sparingly distributed her riches. — *William Gardiner, jun. Dundee, Dec. 5. 1834.*

Arboretums are becoming, I will not say general, but occasional, in Scotland. There is a capital one commenced in Mr. Lawson's nursery, at Edinburgh ; one in Messrs. Drummond's nursery, at Stirling ; one in Messrs. Dickson and

Turnbull's nursery, at Perth; and another at Mr. Reid's, at Aberdeen. Private gentlemen are also forming arboretums; and I am just informed by my friend Mr. Taylor, that, through the kindness and enlightened liberality of his master, he is about to commence one at Thainston. — *Jas. Deans. Arbroath, Nov. 30. 1834.*

ART. IV. *Retrospective Criticism.*

DATES of the Introduction of Culinary Vegetables and Fruits. — While in London, last spring, I was induced, by a remark in that excellent weekly paper the *Athenæum*, when reviewing the several publications of the but too imperfect remnants which exist of the household expenses of Elizabeth of York and Henry VIII., by Sir H. Nicolas; and of Henry VII. and Queen Mary, by Sir Henry Madden, to examine more minutely into them: and I here subjoin the result, in as far as relates to the subjects embraced by your Magazine. By this you will find the introduction of several of our vegetables and fruits carried back to a considerably earlier period than that which has been generally assigned to them; and I have little doubt but that, had we as ready access to other ancient and similar records, a still earlier mention of them might be found. Indeed, it seems to me very improbable that those noted lovers of good living, the monks, who, we are all well aware, spared no pains, in their later days, to indulge their sensual appetites, should have neglected so ready a means of gratifying their fastidious palates as the productions of the garden afford. We know that they were, in early times, most assiduous horticulturists: they had vineyards, which we no longer possess; and it seems probable enough that they may have cultivated many vegetables and fruits which may have been lost at the general demolition and confiscation of the monasteries, and may afterwards have been again introduced as new. Such appears to have been the case with the Kentish cherry; which, Camden states, was brought over by one Richard Harris, who was employed by Henry VIII. for the purpose; and yet nine cherry trees are noted in these memoranda as existing in 1502. If this were the case with trees, we may reasonably suppose that annual productions, which require so much greater attention, should have been lost, and subsequently again imported as new. The several entries that occur are of monies given to the servants or persons themselves who brought the fruit, &c., as presents to the king; or of rewards to one or other of the gardeners attached to the different royal seats: —

Apples and pears (pearys) are frequently mentioned, first in 1502, and, in one instance, particularised as "quene apples." On this account I have noted it; as it is not my intention to do so of any which have been known to have been previously cultivated, though many such occur. Artichokes (artichokks) are frequently mentioned in 1530, 1531, and 1532. In one instance, the name "*Chersaye artichokks*" occurs. The date, in your *Hortus Britannicus*, is 1548. Cucumbers (cocombers) occur in 1530: earliest date, Sept. 7.; 1531, Sept. 21.; 1532, Aug. 6.; 1537, end of July: evincing an improvement in the mode of culture. The reviewer in the *Athenæum* states that these and melons are mentioned only once: drawing the inference that they were scarce, and only very recently introduced; whereas, entries frequently occur of cucumbers, and twice of melons. The date in *Hortus Britannicus* is 1573. Dates: "To one that brought the king date treeesse:" 1500. Frequent entries occur of money given to persons that brought the fruit of lymons, swete oranges, sydrans, pomegranates, and figs; but, as the names of those persons never coincide with those who brought other horticultural productions, and as they were sometimes accompanied by "swetemeats," these fruits must have been of foreign importation, sent by some confectioner, or from what we now call an Italian warehouse. Grapes, frequent mention: 1502, 1530, 1531, 1537. Lettuce (lettuze), frequent mention; July 1. 1530: the date in your *Hort. Brit.* is 1562. Melons (myllones) from Hampton Court,

Oct. 8. 1532; also a melon was presented to the king at Abingdon, Aug. 27. 1532: the date in *Hort. Brit.*, 1570. Peaches (pêches, or peyches), Sept. 18., Oct. 8. 1532; Aug. 1537: *Hort. Brit.*, 1562. Quinces often presented by poor women, 1530, &c.; *Hort. Brit.*, 1573. Red Rosse presented to Henry VII., 1499. Pot of tyme, 1499. — *J. C. Kent. Levant Lodge, Oct. 25. 1833.*

A Monthly Horticultural Calendar in the Gardener's Magazine. — I hope you will not consider me as trespassing on your time in offering the following suggestion: — As you are going to make improvements in the plan of the *Gardener's Magazine*, I, and several others, think that a monthly horticultural calendar, given at the end of each Number, embracing every thing new in cultivation, would be very desirable and useful, as it would enable the reader to see what was necessary to be attended to in the coming month. Such a calendar to this Magazine is a desideratum in this branch of literature. — *A. J. Burnage, near Manchester, Dec. 3. 1834.*

We feel obliged to every correspondent who sends us hints for the improvement of our works. A monthly calendar has been suggested to us before: but, if we were to give it perpetually, it could be nothing more than a repetition; and, if we were to give it for only one year, what advantage would it have over the calendars already published? In our opinion, it would be inferior to them, because it could not be so easily referred to. As to the culture of new ornamental plants, that will be found given monthly, as they come out, under the head of Floricultural Notices; as that of new culinary plants and fruits will be given in our standing articles of Olitorial and Pomological Notices. — *Cond.*

ART. V. Queries and Answers.

BOTANIC Garden at Stockwell. — It is stated, in Lyson's *Environs of London*, i. 791. 2d edit., that Mr. Benjamin Robertson, who died at Stockwell, in 1800, bequeathed the whole of his estates for the purpose of continuing, keeping up, and enlarging a valuable botanic garden which he had made, at great expense, at Stockwell. It is added, afterwards, that the will was set aside by the Court of Chancery. Can any of your readers give me the history of this Stockwell Botanic Garden; which, it appears, actually existed in the year 1800? — *T. H. B. Kensington, Dec. 24. 1834.*

The Gardens of Dr. Hall's Baths, on the Outside of the West Gate of Newcastle, are said to have been laid out in the style in which the younger Pliny had his pleasure-grounds. (*Beauties of Eng., &c., Northumberland*, p. 62.) Could any of your readers oblige me with some particulars of these gardens; and, if possible, with a plan of them, and of the baths? — *J. B. London, Dec. 1834.*

Griffin's First Lines of Chemistry. — In IX. 501., Ephebius Horticultor has recommended Griffin's *Chemical Recreations* to gardeners. In X. 295., Scientiæ et Justitiæ Amator states that he cannot procure the work. This is not to be wondered at, as he has changed the title of it to Griffin's *First Lines of Chemistry*. Griffin's *Chemical Recreations*, commended by Ephebius Horticultor, may doubtless be obtained through the following clew: —

Chemical Recreations; a series of amusing and instructive experiments, which may be performed with ease, safety, success, and economy; to which is added, the *Romance of Chemistry*. By J. J. Griffin. Seventh edition, with numerous woodcuts. Tegg and Son, 73. Cheapside; Tegg, Dublin; Griffin, Glasgow. — *J. D. London, Dec. 1834.*

Salisbùria adiantifolia. — Has this tree ever flowered in England? [The male has flowered once or twice in the Kew Garden; but, we believe, the female has not.] How is it propagated? — *J. S. Esher, Dec. 20. 1834.*

Cropping a Garden. — I should feel greatly obliged to you, or some of your correspondents, to inform me, through your valuable Magazine, as to the best

mode of cropping a garden, so as to have a succession of vegetables, early and late, in the season. — *A. J. Burnage, near Manchester, Dec. 3. 1834.*

Glass Covers at small Cost; in answer to the Rev. Thos. Browne. — Messrs. Attwood and Smith, near Blackfriars Bridge, glass-cutters, sell pieces of glass, 6 in. by 3 in., at 6d. a foot; there are 18 square feet in a gross of pieces: and pieces of glass, 6 in. by 4 in., at 9d. a foot; there are 24 square feet in a gross of pieces. The box, to include any ordered quantity, and the packing, are charged additionally. — *J. D. London, Jan. 1835.*

ART. VI. Covent Garden Market.

<i>The Cabbage Tribe.</i>		From	To			From	To
		£ s. d.	£ s. d.			£ s. d.	£ s. d.
Cabbages, per dozen:				Endive, per score		0 1 0	0 1 6
White	-	0 0 6	0 1 0	Celery, per bundle (12 to 15)		0 0 9	0 1 6
Red	-	0 1 6	0 2 0	Small Salads, per punnet		0 0 2	0 0 3
Plants or Coleworts	-	0 1 6	0 2 6	<i>Pot and Sweet Herbs.</i>			
Savoy, per dozen	-	0 0 8	0 1 0	Parsley, per half sieve		0 2 0	0 3 6
Brussels Sprouts, per $\frac{1}{2}$ sieve	-	0 1 6	0 2 0	Tarragon, dry, per dozen bun.		0 3 0	0 0 0
German Greens or Kale, per dozen	-	0 0 6	0 0 9	Fennel, per dozen bunches		0 3 0	0 0 0
Broccoli, per bunch:				Thyme, per dozen bunches		0 3 0	0 0 0
White	-	0 1 6	0 2 6	Sage, per dozen bunches		0 2 0	0 2 6
Green	-	0 1 0	0 1 6	Mint, dry, per dozen bunches		0 1 0	0 0 0
Purple	-	0 1 0	0 1 6	Peppermint, dry, per doz. bun.		0 1 0	0 0 0
<i>Legumes.</i>				Marjoram, dry, per dozen bun.		0 1 0	0 0 0
Idneybeans, forced, p. hund.		0 4 0	0 0 0	Savory, dry, per doz. bunches		0 1 0	0 0 0
<i>Tubers and Roots.</i>				Basil, dry, per dozen bunches		0 1 3	0 0 0
Potatoes	$\left\{ \begin{array}{l} \text{per ton} \\ \text{per cwt.} \\ \text{per bushel} \end{array} \right.$	2 10 0 0 2 6 0 1 6	3 10 0 0 3 6 0 2 0	Rosemary, green, per doz. bun.		0 5 0	0 0 0
Kidney	-	0 2 0	0 0 0	Lavender, dry, per dozen bun.		0 3 0	0 0 0
Scotch	-	0 1 9	0 2 0	Tansy, dry, per dozen bunches		0 1 0	0 0 0
New, per pound	-	0 2 0	0 2 6	<i>Stalks and Fruits for Tarts, Pickling, &c.</i>			
Jerusalem Artichokes, per half sieve	-	0 1 0	0 1 3	Rhubarb Stalks, forced, per bundle		0 2 0	0 0 0
Turnips, White, per bunch	-	0 0 2	0 0 3	Capsicums, per hundred		0 2 6	0 0 0
Carrots, per bunch	-	0 0 3	0 0 4	<i>Edible Fungi and Fuci.</i>			
Parsneps, per dozen	-	0 0 6	0 0 9	Mushrooms, per pottle		0 0 9	0 1 0
Red Beet, per dozen	-	0 0 9	0 1 0	Morels, dry, per pound		1 4 0	0 0 0
Skirret, per bunch	-	0 1 6	0 0 0	Truffles, per pound:			
Scorzonera, per bundle	-	0 1 6	0 0 0	English		0 14 0	0 0 0
Salsify, per bunch	-	0 1 6	0 0 0	Foreign		0 16 0	0 0 0
Horseradish, per bundle	-	0 2 0	0 4 0	<i>Fruits.</i>			
Radishes, Red, per doz. hands (24 to 30 each)	-	0 0 9	0 1 0	Apples, Dessert, per bushel:			
<i>The Spinach Tribe.</i>				Nonpareils		0 10 0	1 10 0
Spinach	$\left\{ \begin{array}{l} \text{per sieve} \\ \text{per half sieve} \end{array} \right.$	0 1 6 0 1 0	0 2 0 0 1 3	Golden Pippins		0 8 0	1 4 0
Sorrel, per half sieve	-	0 1 6	0 1 9	American, per bushel		0 12 0	1 0 0
<i>The Onion Tribe.</i>				Pears, Dessert, per half sieve:			
Onions, old, per bushel	-	0 1 9	0 2 6	Neillis d'Hiver		0 18 0	0 0 0
For pickling, per half sieve	-	0 2 6	0 3 6	Evans's Seedling, per doz.		0 8 0	0 0 0
Green (Ciboules), per bunch	-	0 0 2	0 0 3	Chapman's Passe-Colmar, per dozen		0 18 0	0 0 0
Leeks, per dozen bunches	-	0 1 0	0 1 3	Baking, per dozen		0 5 0	0 6 0
Garlic, per pound	-	0 0 6	0 0 8	Medlars, per half sieve		0 5 0	0 8 0
Shallots, per pound	-	0 0 8	0 1 0	Chestnuts, per peck:			
<i>Asparaginous Plants, Salads, &c.</i>				English		0 2 0	0 0 0
Asparagus, per 100:				French		0 4 0	0 5 0
Large	-	0 7 0	0 9 0	Pine-apples, per pound		0 4 0	0 8 0
Middling	-	0 4 0	0 5 0	Grapes, Hot-house, per pound		0 5 0	0 0 0
Small	-	0 2 0	0 3 0	Melons, Spanish, each		0 2 6	0 4 0
Sea-kale, per punnet	-	0 2 0	0 3 6	Cucumbers, Frame, per brace		0 10 0	0 0 0
Lettuce, per score:				Oranges	$\left\{ \begin{array}{l} \text{per dozen} \\ \text{per hundred} \end{array} \right.$	0 1 0 0 3 0	0 3 0 0 16 0
Cos	-	0 1 6	0 2 0	Lemons	$\left\{ \begin{array}{l} \text{per dozen} \\ \text{per hundred} \end{array} \right.$	0 1 6 0 6 0	0 2 6 0 14 0
Cabbage	-	0 0 6	0 1 0	Sweet Almonds, per pound		0 2 3	0 2 6
				Spanish Nuts, per peck		0 5 0	0 6 0
				Barcelona Nuts, per peck		0 6 0	0 0 0

Observations. — The weather, with the exception of a few days in the early part of the present month (during which we had a sharp frost), has been generally open and mild. The market has been regularly and constantly supplied with vegetables of excellent quality, at very moderate prices. During

the short prevalence of the frost, the prices advanced materially; but, to-day, with the return of the open weather, we have again a large supply, and a consequent reduction in the price. Early white broccoli, of excellent quality, is plentiful; with a good supply of early purple, and some other new varieties more especially cultivated by the London market-gardeners. Brussels sprouts are now in general use, and in good demand. Forced asparagus, sea-kale, and rhubarb are now becoming more general; but not much in demand, in consequence of the absence from town, at this season, of most of the large and wealthy families. The supply of apples is excellent: many of the old esteemed varieties are again plentiful and good, with a good sprinkling of many of the new sorts. The small supply of pears may readily account for the high price at which they are quoted in the list; but, as the demand is equally limited, the price may be considered nominal. American apples, so much in esteem at this season, are particularly scarce; few of good quality having been as yet imported, nor any immediately expected, as their crop is reported to be a failure. Potatoes are still plentiful and good, with the report of a continued supply from the distant counties; from which we may conclude that the price will not materially alter. This is, under the circumstance of their having become an essential necessary of life to a large proportion of the metropolis, of considerable importance, as connected with the general welfare and comfort of all. — *G. C. Jan. 13. 1835.*

ART. VII. *London Horticultural Society and Garden.*

OCT. 21. 1834. — *Exhibited.* From the list of objects, we have selected these: — Chinese tiles, from J. Reeves, Esq. Citrons and shaddocks, from H. M. Dyer, Esq. A gourd, 8 ft. round, and 212 lb. weight, from Lord Rodney. *Quercus Cériss*, *Süber*, and the Devonshire oak, from E. Johnston, Esq.

From the Society's Garden. Specimens of *Justicia carnea*, *Quisqualis indica*, *Chelone centranthifolia*, *Clématis hedysarifolia*, *Diplopappus incanus*, *Gilia tricolor*, *Eschscholtzia crœcea*, and of other species of plants; apples, eight sorts of; pears, fourteen sorts of.

Nov. 4. — *Read.* A communication in argument that the circulating system of plants cannot be ascertained by supplying to their ingestive system coloured infusions; by the author of the *Domestic Gardener's Manual*: see VIII. 403. On the use of rings of caoutchouc applied to the flower-buds of pinks, carnations, &c.; by the Rev. E. H. Bond, Esq. Observations on the Nice cluster grape and the hock grape; also, respecting the raising of apples from seeds; by J. Williams, Esq., who supplied fruit of the grapes, and of seedling apples, for exhibition.

Exhibited. Marquess of Salisbury's potatoes, from J. Reeves, Esq. Two pine-apples of the scarlet Brazilian; one, in weight, 5 lb., the other 4½ lb.; one of the Bagot Park, 2½ lb.; from Mr. R. Buck. *Oncidium ciliatum*, from B. Miller, Esq., Mitcham. *Ipomœa rubro-cyanea*, from Mrs. Marryat. *Monachanthus discolor*, a very curious orchideous plant from Demerara, from J. Bate-man, Esq.

From the Society's Garden. Flowering specimens of *Collinsia bicolor*, and of other kinds of plants esteemed for their beauty; China roses, ten kinds; China chrysanthemums, nine kinds. Pears: Echasserie, glout morceau. Apples of twenty-eight kinds. The following kinds are marked as especially estimable for the table: Pearson's plate, a very handsome and excellent desert apple; Beachamwell, court of Wick, Claygate pearmain, reinette grise, Syke House russet; golden reinette, once a widely cultivated variety, and it still deserves to be so. The following kinds are designated as good kitchen apples: — Bedfordshire foundling, Stony Royd pippin, Grange's seedling, yellow bellefleur; rouge d'hiver, this bears abundantly; Dredge's beauty of Wilts, old pome-roy, late Carse of Gowrie, Hormead pearmain, Waltham Abbey seedling.

ART. VIII. *Biography of Consequa.*

OUR readers will recollect that, in II. 422., we gave the name of the Chinese merchant Consequa, as a specific distinction to a *Wistaria* imported from his garden to this country in 1818, and now generally introduced and admired. It appears from a pamphlet published by the late Charles Marjoribanks, M.P., and noticed in the *Times* newspaper of October 8. 1833, that Consequa, or Conseequa as the name is there spelt, was one of the eleven hong or foreign merchants of Canton, and that he died in 1823. The following short notice of his life may give rise to interesting reflections, when admiring the beautiful lilac bunches of flowers which hang from the tree named after him. As far as we know, this is the first instance of the name of a Chinese being applied to a plant by a European; and we are happy to think that that Chinese was so deserving and interesting a character. "Consequa was a person of respectable family, and very amiable disposition. Unhappily, he associated himself in trade with American merchants, from whom he received the most ungrateful return; their debts owing to him being upwards of 500,000*l.* sterling. He was also most nefariously imposed upon by an Englishman, who came to China with a diploma as Austrian consul, in a frigate sent to China by that government. Consequa was recommended to apply to the court of Vienna for redress. He received in reply a snuff-box, with the Emperor of Austria's picture upon it, and a complimentary letter from Prince Metternich. The snuff-box he was afraid to exhibit, for fear of his being discovered by his jealous government in correspondence with a 'foreign devil barbarian king.' When showing the letter, he used to say, it was full of very handsome words, but that it was very extraordinary it made no mention of his dollars. After being thus plundered of his property by these republican and high monarchical swindlers, he died in misery and a bankrupt." (*Times*, October 8. 1833.)

After perusing this account, we applied to Sir G. T. Staunton, who sent us the following extract, lent us six views of Consequa's house and gardens (one of which we have engraved and published in the new edition of the *Encyclopædia of Gardening*), and procured us some farther information from Sir Jas. B. Arniston, and recommended us to apply to Mr. Reeves. The following extracts are the result:—

"When I was in China, the name of Conseequa was usually spelt with two *e*'s; but it is a matter of indifference, as it is an English corruption of his real name among his countrymen, which, I think, would be written Quun-swequan, or something like it.

"The views sent give a very correct idea of Conseequa's establishment about 1806, the era of his greatest prosperity, as well as I recollect it. The best garden about Canton was, I think, that of his relative Puankhequa, whose portrait you may recollect over the chimneypiece in my billiard-room, but I have no views of his garden. I have several others besides these which I send you, but, as they are fancy views, they are less interesting.

"The following anecdote I inserted in the second edition of a work of mine now out of print; and, thinking that it may be acceptable to you, I enclose it. — *Geo. Thos. Staunton. Leigh Park, near Havant, Oct. 17. 1833.*

"In extenuation of another charge against the Chinese, their want of gratitude, I may, perhaps, be permitted to relate the following anecdote. A considerable Chinese merchant at Canton (Conseequa was his name), a relation of the merchant last mentioned, had some dealings with an American trader; who attempted and would have succeeded in quitting the port without discharging his debt to the Chinese, but for the spirit and activity of a young officer of one of the English ships. He boarded the American vessel, when upon the point of sailing, and, by his remonstrances or otherwise, prevailed on the American to make a satisfactory arrangement with his creditor. In acknowledgment for this piece of service, the Chinese merchant purchased from this young officer, in his several successive voyages to China, on very avourable terms, the whole of his little commercial adventure, and he might

thus have been considered to have fulfilled any ordinary claim upon his gratitude; but he went farther than this: after some years he expressed his surprise to the officer that he had not yet obtained the command of a ship. The other replied, that that lucrative post could only be obtained by purchase, and at an expense of some thousand pounds, a sum wholly out of his power to raise. The Chinese merchant said that he would remove that difficulty, and immediately gave him a draft for the amount required, to be repaid at his convenience. The officer died on his voyage home, and the draft was accordingly never presented: but I have been assured that it was drawn on a house of great respectability, and would have been duly honoured.' (*Staunton's Miscellaneous Notices on China*, part ii. p. 267., printed for private circulation in 1828.)"

"Conseequa was of a very respectable family; he was always considered a very amiable man, and in his domestic relations was, as I have understood, particularly so. He was reported to be entirely free from that debauchery which but too frequently characterises the Chinese of all classes. He professed to be, and indeed was, I believe, attached to Europeans, and at all times endeavoured to show it, by his liberality, and his friendly and cordial attentions and hospitality towards foreigners; and there seemed no reason to doubt his sincerity in these points. In his transactions as a hong merchant, he was, in the latter years of his life, peculiarly unfortunate; arising, perhaps, from his too extensive or speculative dealings, and from no small degree of inattention, I fear, on his own part, in the management of his concerns. Conseequa died several years since. — *Jas. B. Arniston. Walmer, near Deal, October 20. 1833.*"

"My acquaintance with Conseequa did not commence until 1812, when he had passed the meridian of his opulence. I was absent from China part of 1816 and 1817; and he died of carbuncle, August 8. 1823: therefore I can add little information about him to what you already have. Part of his house was burnt down in 1816, probably after Sir George's views were taken. I am not sure if I possess any taken after the rebuilding, though I have a great many of Chinese houses, gardens, plants, and of natural history, which I shall be happy to show you here.

"Conseequa was the first person to propagate the *Wistaria*, and the two plants brought to England in 1816 by Capt. Wellbank and Capt. Rawes, were obtained from him; therefore the trivial name may of right belong to him; but the original plant was brought from Chin Chew (Chang Chow Foo), in the province of Foheen, by his nephew Tinqu, and planted in his garden adjoining Conseequa's, and remained there still neglected in 1831.

"The best accounts of Chinese gardening will be found in Mr. Livingstone's communications to the Horticultural Society, and published in their *Transactions*, vol. iii. pages 183. and 421.; vol. iv. page 224.; and vol. v. page 49, &c.

"The only Chinese who paid any decided attention to flowers, in my remembrance, was Puanhequa's brother (usually named by Europeans the Squire): he expended large sums upon them; and I have seen some hundreds of chrysanthemums at one time in blossom in his garden (of which a tolerably correct view is in Wathen's *Voyage to China*).

"Of Chinese gardening and gardeners, I entertain myself a very low idea: it was only by engaging to purchase them, that I got the *Wistaria* propagated for sale: and I have tried in vain to get the gardeners at Fa Te to collect their own wild plants, of which they have so many beautiful ones (and of which I have drawings) not yet brought to England: nothing will drive them out of 'old custom.' They still go on, increasing only such as are required to keep up the usual monthly supplies of blooming plants to those who hire them. The gardens at Fa Te are falling off fast; many of them have been converted into coal wharfs, since the people of Canton have taken to use coals. — *J. Reeves. Clapham, October 21. 1834.*"

THE
GARDENER'S MAGAZINE,
MARCH, 1835.

ORIGINAL COMMUNICATIONS.

ART. I. *An Excursion, in Search of Orchideæ, up the River Masseroni, which falls into the Essequibo about a Hundred Miles from its Mouth.* By Mr. JOHN HENCHMAN.

AFTER a tedious passage of nearly two months, it was with great pleasure, and in the highest spirits, that I landed in Georgetown, Demerara, on the 12th of March, 1834. The appearance of Demerara from the sea is by no means inviting, nothing being visible except a dense mass of mangrove bushes, many of which are growing within the limits reached by the tide. Justly has Demerara been called the land of mud: not a grain of sand, not a single rock does it present, for the eye to rest on; and were it not for a few cocoa-nut and cabbage palms, and a tall chimney or two, which are visible, at intervals, along the coast, one could scarcely credit that such a spot could have been selected for a European settlement.

I experienced much disappointment and delay in preparing to visit the interior, which is generally the case when a traveller is at the mercy of the convenience of others. However, I became acquainted with Mr. D. Mackie, who possesses a woodcutting establishment on the river Essequibo, who proved a most invaluable friend, and to whose disinterested kindness and hospitality I was greatly indebted during my stay in Demerara. After having forwarded to Clapton a few species which I had collected in the vicinity of Georgetown, I departed in a small schooner for Ampa Creek, the residence of Mr. Mackie, on the 13th of April.

Ampa is situate about sixty miles from the mouth of the river Essequibo; and there being many Indians who were in the habit of frequenting Ampa, Mr. Mackie promised to procure some to paddle me up the river. The majestic Essequibo is said to contain from three to four hundred islands. Among the largest are Laguon and Wakenham, which produce, perhaps, half the

sugar exported from Demerara. Higher up are Hog Island and Fort Island; the latter of which was formerly the seat of the Dutch government, and on which an old fort and a bomb-proof magazine, in perfect repair, are still remaining. These, and many other large islands, are thickly interspersed with smaller ones, exhibiting every possible variety of size and shape, of which the chief beauty consists in their being, one and all, covered with vegetation to the water's edge.

In progressing up the river, the banks afford a great variety of ornamental trees and shrubs; and it was to me a source of regret, that I could not afford time to examine their beauties individually: but my time was exclusively devoted to the tribe of *Orchidéæ*; and no one, except him who may have been engaged in such a pursuit, can imagine how fully the time of a collector is occupied in a tropical country. On the 14th, having hired a canoe, with three cobmen (a cross between the Indian and negro), four Indians, and a coloured man who spoke a little English, I commenced the ascent of the river in good earnest; depending for the support of myself and party on the fish which the Indians could shoot with their bows and arrows; or, should that fail, on the game which I could procure by the agency of a good double-barreled gun. We had no further want, except a little cassava bread, which we expected to obtain at the different Indian settlements we might fall in with in our route.

There is something very exciting in this kind of life to one who makes up his mind to eat the more merrily the scantier or coarser his meal, and to laugh at and enjoy difficulties and dangers, which, in the routine of ordinary life, would be considered as insuperable; and as the light canoe glided swiftly over the bosom of the placid river, or was being hauled up the face of some rocky fall or rapid, I felt an enthusiasm and content which I cannot describe. My plan of proceeding was simple and regular. A little before break of day, our hammocks were unslung and conveyed to the canoe; and at daybreak, having taken my cup of coffee, the only luxury I carried with me, I stepped into the canoe, which was immediately shoved off by the grave and methodical Indians, who continued paddling till ten or eleven o'clock, unless interrupted by me, or by the pursuit of fish for our breakfast. Between ten and eleven, which time was ascertained either by the position of the sun, the surest guide, or by consulting a watch I carried with me, having fixed upon a spot likely to afford *Orchidéæ*, a wave of my hand towards the shore caused the sharp-bowed canoe to dash in upon the fine sand which is found in some parts of this river, or to be brought up, with great precision, alongside the rough and pointed rocks which often gird its banks.

It sometimes, though rarely, happened that we had shot no

fish in the morning; and when that was the case, having landed me and one of the party to collect wood and light a fire, the rest betook themselves to some of the rocky falls of the river, and seldom returned without a supply of fish. In the meantime, I pursued, cutlass in hand, my researches after *Orchídeæ*, sometimes accompanied by an Indian, but generally alone; as the Indians, fatigued with paddling, did not offer, nor could I expect them, to go in pursuit of a few plants, the value of which they did not appreciate. There was a something which directed me in the choice of our resting-places which I cannot describe; for had I been asked, at the time, Why do you suppose that *Orchídeæ* are growing near that spot? I could not have given a direct and definite reason: but there was, I repeat it, a something in the appearance of the trees, the situation of the spot, a something not to be defined to any particular feature, but emanating from the whole, which seemed to assure me that *Orchídeæ* might be found there; nor was I often disappointed. On the other hand, it sometimes happened that no such place presented itself in reasonable time; and, being compelled to land in ordinary places, I seldom found any thing of consequence. I used to wander into and along the skirts of the bush, till recalled by the whoop of the Indians, which gave notice that our frugal meal was prepared; and I then generally returned by a circuitous route, guided either by the whoop, repeated at intervals by the Indians, and which I learned to answer in their fashion, by the rays of the sun, or by a small and excellent pocket compass, my constant companion in the wilds of America.

Having consumed about an hour since the time of landing, I once more reentered the canoe, which continued its course, with slight delays occasioned by my landing in any favourable-looking spot, or calling at some Indian settlement, till between five and six o'clock, when we landed for the night; and I again wandered a little way, while the Indians were slinging their hammocks, and getting ready the dinner. The sun sets in Demerara from six to a quarter past, and in ten minutes after, perfect darkness succeeds; so that our dinner was eaten by the light of our fire: and about seven o'clock we all turned into our hammocks; the Indians soon sinking into their slight watchful repose, while I was thinking over the events of the day, the discoveries made, and treasures collected, and forming plans for future expeditions. It sometimes happened that I awoke in the night, and found myself swinging in my hammock between two trees; the moon, perhaps, shining full upon my face; the silence of the night and the solitude of the forest unbroken, save by the dull sound of the waters as they foamed over the rocks; the roar of the jaguar, as he roamed through the bush in search of his prey; the shrill cry of the ourang-outang, which seemed to

thrill through me; the still more disagreeable moan of the baboon; or any of the other noises peculiar to the bush: and one whose imagination was at work might have fancied, as the light land breeze whistled gently through the trees, or disturbed a few of the dry leaves, that the bushmaster was wreathing himself round one of the branches of the tree which supported the hammock; or that some other of the many large snakes with which this country abounds was trailing its colossal body beneath. This combination of sounds, till the senses became accustomed to it, produced a feeling of mixed pleasure and pain; nor was this diminished by the flapping of the wings of the large vampire bat, as he occasionally passed within a few inches of my nose; for I candidly admit that, though the presence of this bird or beast did not give me any uneasiness, I did not, like the immortal Waterton, feel any peculiar wish to experience, when I awoke in the morning, the pleasure of finding that my great toe had been punctured by this treacherous foe, and that I had lost twelve or fourteen ounces of blood through its agency. If anything more could be wanting to complete the interest which a European must feel in such a situation, he need only reflect on the beings who are sleeping around him, part of whom are in a state of entire barbarism; while the others, to the ignorance of the savage, add but too often the acquired vices of the unfortunate negro.

The heat of the sun, reflected from the water, was, at first, almost intolerable; causing my face and lips to blister: but, after a short time, I experienced but little annoyance from it. I amused myself, during our progress up the river, by looking out for *Orchidéæ*, which are sometimes found growing on the overhanging trees; or by shooting the various birds, which are very abundant on the banks. Among the best of these are the powie, or bush turkey; a fine bird, almost as large as our English turkey, and quite black: the maum, in flavour similar to a grouse; the maroudi, the toucan, the parrot, and several others, all of which are good eating: nor must we forget the wild duck, which is plentiful. Look towards the muddy bank of the river, and you will see what you would mistake for a log of wood; but, as the canoe approaches, it rolls sluggishly into the water, and you perceive it to be an alligator or cayman. The Indians shot several of these animals, while basking in the sun, with their arrows; the largest of those shot might have been from 6 ft. to 7 ft. long. They appear to sleep exceedingly sound; as it twice happened that I shot a bird in a tree immediately above a cayman (which we did not, at first, perceive), without disturbing the monster; for we afterwards pulled in, and shot both. Sometimes, also, about sunrise, might be observed, ahead of the canoe, a slight ripple on the water, which, on a nearer approach,

proved to be a snake trailing across the river, ever and anon thrusting up its head as if to keep a look-out, and making use of the same undulating inflexions of its body in the water as on land. Or, passing under some overhanging tree, observe, crouched on one of the branches, the guana, which is of the lizard species, about 3 ft. to 4 ft. from the nose to the end of the tail, and which possesses a coat composed of scales nearly as strong as those of the alligator. Paddle now, with great caution, to a position favourable for shooting the guana; for the least noise will cause it to drop into the river, and the chance is lost. Take a steady aim with your gun at the belly, and fire: the guana, shot dead, falls from the tree into the river; and again you would be deprived of your prey, did not one of the Indians dart out of the canoe, and, diving with the speed of lightning, recover the fast-sinking body. The guana affords a delicious meal, and, when roasted Indian fashion, with the skin on, the flesh is more white and tender than that of any bird or animal I have ever seen, not excepting a barn-door fowl. On the banks of the river, and in various parts of the bush, may be observed large burrows, which are inhabited by the laba, which is commonly, though, I believe, erroneously, called amphibious, from its taking very freely to the water when closely pursued; and it must then be shot with an arrow; for, as soon as the powder flashes in the pan of your gun, the laba dives, and remains sometimes long under water. This animal, in shape, is very like a Guinea pig, but much larger; a full-sized one weighing, I should suppose, from eighteen to twenty pounds: its flesh possesses a flavour between pork and veal; and it is esteemed a luxury in Georgetown, where it is seldom seen, though the Indians, who train dogs to hunt it, will sometimes kill four or five in a morning. On the 23d, I reached the Indian settlement of Wamokai, which is supposed to be about 700 miles from the mouth of the Essequibo; and I determined, with much regret, to retrace my course, after one more day's progress up the river; for the limited space of my canoe was already pretty well filled with specimens of *Orchideæ* which I had collected. The Masseroni, for about 400 or 500 miles from its junction with the Essequibo, abounds in rapids, and in falls, none of which possess more than perhaps 5 ft. or 6 ft. of perpendicular fall; yet there is often a succession of small falls, which renders the descent of the river sufficiently dangerous. Some of the principal of these falls are, Waranambo, Aman, Wapopekai, Sarpua, Parokas, and Tekie, which are the last and most dangerous. In proceeding up the river, the canoe was hauled up over some part of the rocks, where there was but a small body of water. I used to laugh much at the Indians, as they were floundering about in the water, hauling and shoving

at the canoe; but I was given to understand that they expected to have the laugh against me in descending or shooting the falls, for which process the main fall is always chosen, as there is less danger of sunken rocks: and I candidly own that, although my face showed the utmost composure to the Indians, I certainly thought, when shooting the falls of Tekie, that I stood a good chance of losing the produce of my labours, and perhaps my life, as I can only swim, like a stone, to the bottom. At the falls of Tekie the river falls about 6 ft., nearly perpendicular; and, the channel being narrow, the rapidity and rush of the water is very great. About 40 ft. below the fall the river makes a sudden curve, occasioned by a line of pointed rocks stretching out from the shore; and, as the canoe, impelled by the force of the current, and the united exertions of the Indians, who are obliged to paddle hard to keep steering on the canoe, dashes like lightning down the fall, it appears that it must be inevitably dashed on the rocks, which are immediately under its bows: but a single turn of the steersman's paddle causes the light obedient canoe to swing round broadside to the rocks; and a strong sweep of the paddle takes it far out of danger. But think not that we escaped altogether free; for, in coming round in the boiling surf, a wave struck the side of the canoe, and filled her half full of water, though, fortunately for me, the water, being fresh, did not much injure my plants. On the morning of the 30th, I reached Ampa again in safety; and, although, during that time, I had lived upon fresh fish, without salt (the Indians having left behind the salt I had procured in Georgetown), and a little bitter cassava bread, with pure water to wash it down, I never enjoyed myself more in my lifetime, and was only sorry that circumstances prevented my following the course of this beautiful river to its source.

I may add that, although many of the smaller and very interesting species could not sustain the voyage, yet Mr. Low has succeeded in preserving the majority of the species of *Orchidææ* collected in this expedition; and they are now in a thriving condition.

Clapton Nursery, Jan. 20. 1835.

ART. II. *A Series of Designs for laying out Kitchen-Gardens.* By Mr. T. RUTGER. Design 9., *Containing Four Acres within the Walls, and Five Acres in the Slips; with a System of Cropping indicated.*

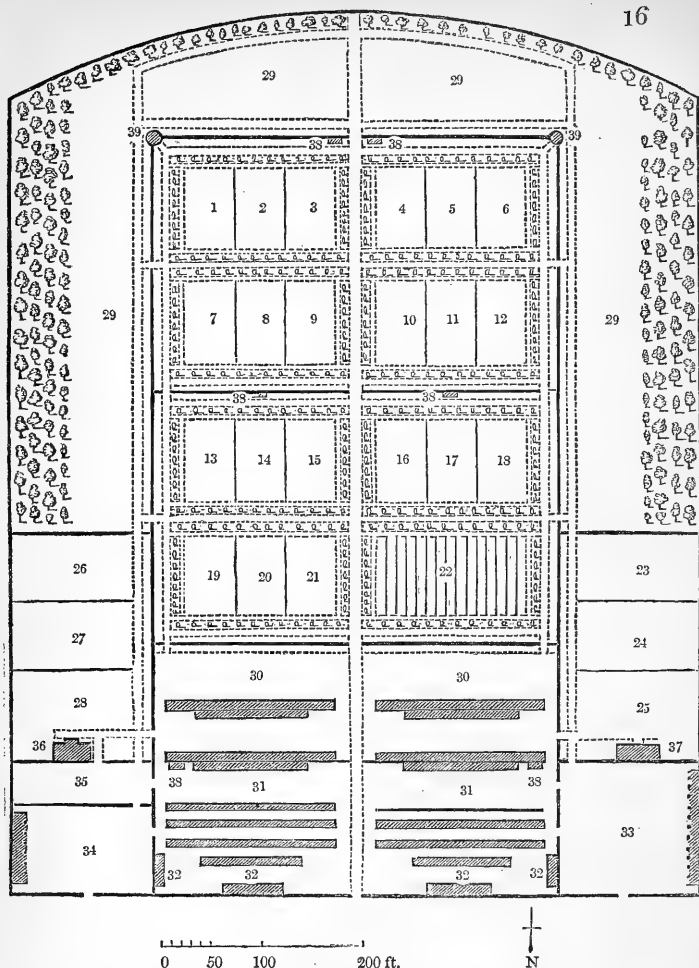
WHEN I completed No. 8. of the series of plans for kitchen-gardens, I thought I had finished my work upon that subject; but, upon your suggestion that it would be desirable to have the

plan of a kitchen-garden laid down for the succession of crops for a series of years, I must say that I felt inclined to turn my attention to it. After considerable reflection, however, I do not conceive it to be altogether practicable to carry it into effect in such a way as for it to be universally applied; as, in gardens of considerable extent, a variety of soils are frequently found, some of which are more proper for some sorts of vegetables than others; and, consequently, such parts of the garden would be reserved for such particular crops, or, at least, partially so, which would more or less interrupt the routine of cropping which otherwise might be adopted; as, for instance, a deep soil would be preferred for the tap-rooted esculents, &c. It must also be observed, that, in some families, more of one or more particular kinds of vegetables are in demand than in others, and also that the families whose country residences are far distant from the metropolis, and who spend the early part of the season in town, require but few, if any, of the early crops to be grown. Again, various opinions are held as to the propriety of cropping the wall borders. While some insist upon its being absolutely necessary to the welfare of the fruit trees to let them remain uncropped, others assert that light cropping is not injurious, and that it is making too great a sacrifice to give it up; which, indeed, appears to be the true state of the case. Mr. Mearns's method of chambering a part of the borders for the fruit trees, if its merits be equal to what he makes them appear to be, would, by its adoption, set aside all contradictory opinions upon the subject, and give a good portion of the borders for those kinds of crops for which they have been generally found desirable.

The above considerations, with others that doubtless may be urged, seem to militate against the possibility of laying down a system such as might strictly be adhered to. Still, I think something might be done towards it; particularly in cases where the garden is composed of one sort of soil, and where the families are always resident, or at least at such a distance only as that the produce of the garden may be always available for their purposes.

In offering you, therefore, a plan for a system of cropping, the above considerations must be taken into the account; and I shall assume that the borders are to be at least partially cropped, which will give room for some of the lighter sorts of vegetables, and for some of those from which an early supply is expected by the proprietors of gardens, upon the success of which, in many instances, the interests of the gardener depend, at least so far as respects his being considered a good gardener.

In order to simplify the process of cropping, I have, in the annexed plan (*fig. 16.*), divided the culinary departments into



1. to 21, Culinary departments for a rotation of crops. 22, Asparagus. 23, Artichokes.
 24, Rhubarb. 25, Sea-kale. 26, Jerusalem artichokes, which may be divided into several
 sections, for alternate cropping with other vegetables. 27, Horseradish. 28, Herb beds.
 29, Fruit garden. 30, Forcing department. 31, Frame-ground, with dwarf wall for training,
 five ranges for frames, cucumber ridge, &c., and two pits. 32, Sheds for mushrooms, tool-
 house, and other purposes. 33, Department for mixing and turning dung, with open shed.
 34, Compost department, with open shed. 35, Yard to gardener's house. 36, Gardener's
 house. 37, Fruit, onion, and seed-rooms, with lodging-room over. 38, Water tanks.
 39, Rotundas, for lodging-rooms for under-gardeners.

sections, and these sections, or a part of them, may be again divided for such crops as may be thought too large were they to occupy the whole of a section. The compartments for sea-kale, rhubarb, and artichokes are placed in the slip contiguous to the yard for mixing dung for the frames, and as being convenient, in that situation, for forcing or protecting through the winter;

and thereby keeping from the general view the dirt and uncleanness attendant upon the operations connected with their culture. Horseradish and Jerusalem artichokes, being rough crops, are placed in the slip on the other side, together with the herb beds. The asparagus beds occupy one of the divisions inside the walls, viz., one eighth of the quarters. Having thus disposed of the standing vegetables, there are twenty-one sections left for a rotation of crops of the annual kinds, which, by properly disposing, might be so arranged as that some of them might not be sown upon the same ground for a series of five years; while to others of which a less number of crops are wanting, a longer period would be given; and for those of which only one crop is wanted, such as onions, beets, and carrots, if one section should be sufficient for each, a series of twenty-one years would elapse before they would come on the same ground again. It must here be noticed that I calculate upon the fruit borders for early and late carrots, winter onions, earliest and latest crops of dwarf peas, kidneybeans, with salads, &c.

I might now proceed to go all through the sections, and fix the crops for one year to each; but I do not see the utility of this: for, as soils differ, there can be no standard fixed as to the time that one crop can be removed to be succeeded by another. A knowledge grounded upon experience of the nature of the soil is, in this case, necessary: but, in order to simplify what I mean, I will suppose that four sections should be necessary for peas. I take, therefore, the first year, Nos. 1. 6. 11. and 16., which, if each be subdivided, will give eight crops. The following year I appropriate Nos. 2. 7. 12. and 17. to the same purpose; and the third year, Nos. 3. 8. 13. and 18.; and so on, year after year, throughout the whole series of sections; and the same rule is to be observed, by properly disposing of all the other different kinds of crops at the commencement of adopting the above system; at the same time calculating upon the crops that are to succeed those that are in the ground, according to the season necessary for their cultivation.

Cabbages, being a crop which some gardeners let remain in the ground over year, for the sake of having greens the following winter, seem to stand in the way of the above system being strictly adhered to; but, in a series of five years' cropping, there will be one section over and above the number wanted, which, with a little management, will afford the means of following up the system without its being materially deranged.

Having thus ventured to give the result of my considerations upon the subject in view, together with a plan which I conceive may, at least partially, answer the purpose intended, I shall be most happy to see it farther elucidated, and brought to greater perfection by any of your correspondents who may feel inclined

to favour you with their opinions and designs upon it. The culinary department within the walls of the garden now offered for your acceptance comprises four acres; and the slips for the fruit-garden and standing crops of vegetables, nearly five acres; the whole of which is, of course, open to contraction or enlargement, according to circumstances, as may be found convenient.

Shortgrove, Essex, 1834.

ART. III. *Design for the Pleasure-Grounds, Flower-Garden, and Kitchen-Garden of a Mansion.* By Mr. WILLIAM DARGAVELL.

IN the accompanying plan (*fig. 17.*), *a* is the site of the mansion; *b*, baluster rail wall; *c*, approach to the house; *d*, road to the offices; *e e*, offices and dungpit; *f*, walk to the kitchen court. The dotted lines from the top of the banks show the inclined plane of descent from the house to the offices. *g g*, Sloping banks from the terrace walk; *h*, the flower-garden. I may here remark that this flower-garden is the same as that at Kirkmichael; but, as it was originally from my own study, I do not hesitate to give it a place in this plan. Let us suppose this flower-garden to be planted in the mingled style; which, by due attention to the four prevalent colours of plants, will enable it to be kept up in flower nearly eight months in the year. The figures on the lawn may be planted in masses of one colour, and some of them may consist of American plants; the shrubs figured in the map consist of Portugal laurels and rhododendrons. *z z* is a rockwork; and *k*, a water fountain. The latter is supposed to throw the water up from its centre; which, with the sun's rays reflecting on its fall, would be a very imposing object. The herbaceous border (*l*) should contain a selected collection of the finest sorts of flowering plants; and the back row should be planted with dahlias, tree roses, and hollyhocks, alternately, 6 ft. apart. The spaces at *m m* are to form a shrubbery; the east side of which is to be bordered with plantation; and the south exposure is supposed not to be very broad, so that views can be seen over it to the supposed park scenery. The kitchen-garden (*n*) contains an acre and a half imperial measure inside of the walls, and the slip is surrounded with a holly hedge; *o* is the vinery; *p*, the greenhouse; *q*, the peach-house; *r*, furnace pits; *s*, gardener's assistant's room; *t*, fruit-room; *u*, mushroom-house; *v*, melon and compost ground, surrounded with a holly hedge; *w*, gardener's house; *x*, fruit-garden, bordered with plantation on its west side as a shelter; and *y* is a plantation sheltering the garden from the north.

Kirkmichael Gardens, Sept. 6. 1834.

for plans of gardens. We publish it, not only on account of its intrinsic worth, but to second the views of the Dumfries Horticultural Society, in encouraging young gardeners to think, contrive, and to embody their thoughts and schemes, both by delineations and descriptions. We also think that we can, at the same time, render service both to the author of the plan, and to our readers generally, by the remarks which we shall make upon it.

Instead of simply stating the fact, that we approve and commend Mr. Dargavell's design, which might encourage him, without doing him any positive good, we shall endeavour to lay down some of the principles of criticism by which such plans as that before us ought to be analysed, and state our reasons for approval.

In the composition of a plan, as in that of a picture, a piece of music, a poem, a discourse, or, in short, anything that is to form a whole, there are certain principles common to the art of composition, and certain rules derived from these principles, which belong to each particular art. For example, a universal principle is, that all the parts of a composition should unite in forming a whole; and a rule applicable to the plans of kitchen-gardens is, that the walls, walks, and the borders of the boundaries and compartments, should be straight lines. We state this to show the difference between a principle and a rule. The rule admits of exceptions; for a kitchen-garden may sometimes, from necessity, have a circular or curved wall: and this would involve curved lines in some of the borders and walks. A principle, however, admits of no exceptions; for, whatever lines may be employed in the composition of a garden, they must unite in forming a whole. Now, there is not a single part of any plan or composition, however small or trifling it may seem to be, which cannot be either justified or condemned by a reference to principles and rules, with as great certainty as the nouns, verbs, prepositions, articles, &c., in a sentence can each be justified or condemned by the laws and rules of grammar. All the difference is, that the principles and rules of grammar are universally known, because universally required for the purposes of human intercourse; while those of composition in the arts of design are known imperfectly and partially, owing to the limited demand for works of art. Let no one, therefore, imagine, when we approve of, or find fault with, a design, that it is merely a matter of taste. The taste of a design, or a discourse, is quite a different thing from its correctness with reference to principles. A garden might be designed in strict accordance with the principles and rules which are approved of by mankind generally, and yet not so as to suit the taste of an individual. In that case, no fault is to be found with the artist by any one but by his

employer; who has a right to say, "What you have done is perfectly just and correct; but I prefer having it thus, because such is my particular taste."

The plan before us consists of three parts: the house (*a*), the flower-garden and scenery in front of it (*h, i, l*), and the kitchen-garden (*n*). There is nothing in the position of these three parts, as far as appears by the plan, to prevent them from forming a very good whole. The kitchen-garden is very properly placed on the same side with the domestic offices and the stables; and the latter are conveniently situated for the melon ground, which are essential points. The kitchen-garden, as far as concerns the space within the walls, is unexceptionable in point of principle and of rule. The curved lines of the lawn (at *m*) appear, on first glancing at the plan, to be in violation of a principle, viz., that of the connection of the parts; and an ill-natured critic might say that there was no connection between the serpentine line which bounds the turf, and the straight line of the garden wall. This is true; and also that there is nothing in the one line that suggests anything in the other line; and that, if they were shown to any one separately, the idea would never occur of bringing them together with the view of forming a whole. In other words, that, if all the different lines which compose the walks, walls, and turf boundaries of this plan were drawn separately on a piece of paper, and classed as straight, angular, curvilinear, &c., no one would choose the two lines objected to as the most suitable for being brought together. This we state to show the mode of analysing a plan, as far as concerns lines; but, with respect to the plan before us, when it is considered that the space between the curved boundary of the turf and the straight garden wall is to be planted with shrubs and trees, and, consequently, that the straight line of the wall will be concealed, the apparent objection falls to the ground.

The parallelogram forming the flower-garden (marked *h h*) is considered, by itself, unexceptionable, in point both of principle and of rule. Whether such a flower-garden ought to be placed directly in front of the house or not, must depend on the character of the distant scenery seen from its windows; the principle of guidance being, the unity of expression of the entire view. When the view from the lawn front of a house is of a grand, forest-like, or mountainous character, a conspicuous flower-garden in the foreground is incongruous with the general effect; that is, it detracts from the unity of the expression. In such a case, the foreground would express culture, softness, and beauty; and the middle distance, and distance, sylvan, alpine, or savage grandeur: two expressions incompatible with each other. If, in such cases, some local circumstance compels the artist to form his flower-garden in front of the house, it ought to be con-

cealed from the windows by being sunk; by a terrace walk, as in the design before us; or by placing the house on an elevated platform, which should, at the same time, form a foreground to the distance.

We may remark here, incidentally, that the finest example that we know of, in England, of a flower-garden being sunk to prevent its interfering with the unity of expression of the view from the house, is at Redleaf, in Kent. Nothing, in our opinion, can exceed the management of that place; and, independently of what has been there effected by art, there are few places in England equal to it in natural beauty. The proprietor (Mr. Wells) is a man of the most just, elegant, and correct taste that we are acquainted with; and he ranks in our estimation, in this respect, with Bishop Carruthers. (See IX. 6.)

The remaining part of the lawn, surrounded by straight walks, and intersected by a central straight walk and curvilinear ones, contains some clumps of shrubs; and the situation of these is the only serious point in the design that we have to find fault with. If Mr. Dargavell will turn to what we have said in VII. 400., he will understand at once what we mean. There is no particular reason why each clump or group should be in the precise place where it is, rather than in any other place. There is not one of them that might not be moved, either backwards or forwards, or to the right or left, without producing any great derangement of the general effect; and such removal would produce no derangement at all of the walks. The shapes of some of these clumps are peculiar, for which there appears no obvious reason. If the clumps or groups had been principally placed in the angles of the walks, they could not have been moved an inch without deranging those walks; and they would thus have accounted for the precise direction given to the latter. Notwithstanding this trifling fault, we like the design, taking it altogether; and we hope Mr. Dargavell will assiduously cultivate his talents for this species of composition. We recommend to him our *Architectural Magazine* for last year; in various papers of which he will find the principles of composition familiarly developed. From these papers, he will learn to understand the true meaning of the term artist-like composition, whether in architecture or gardening. It is a great matter when a person who directs his attention to devising plans, to drawing ornaments, or, in short, to delineating in any way, is enabled to determine in his own mind what is artist-like and what is not: many things, for example, portraits of scenes in the country, of individual men or animals, or of manners on the stage, are very like nature, and yet not at all artist-like, that is, not works of art. — *Cond.*

ART. IV. *An Account of some remarkable Trees now growing at Mamhead, the Residence and Property of R. W. Newman, Esq., situated about Eight Miles from Exeter.* By Mr. ROBERT T. PINCE, Nurseryman.

It is proper to premise that all the circumferences of the trunks in this account were taken, as directed in Mr. Loudon's Return Paper, at one foot from the ground.

Quercus Süber, Cork Tree. — Circumference of the trunk, 12 ft. 6 in.; height, about 60 ft.; clear stem, before it branches off, 10 ft.; elevation above the level of the sea, about 450 ft.; soil, fine rich red loam; substratum, red stone conglomerate.

This magnificent tree stands in the middle of the park, quite detached and exposed; the ground sloping to the E.N.E., and open to the sea breeze from the eastward, being about three miles distant from the sea coast. The tree has a compact oval head; and its grand massive branches, each in itself a tree of noble dimensions, covered with rugged bark resembling richly chased frosted silver, are finely contrasted with its dark green luxuriant foliage, and altogether render this a most superb tree. As nearly as I have been able to ascertain, it was planted rather more than a century ago.

Near this stands another cork tree of inferior dimensions; but which, at any other place than Mamhead, would be looked upon with wonder: in fact, it is a noble tree, being 11 ft. 3 in. in circumference, and about 50 ft. high.

Quercus Ilex, Evergreen Oak, or Ilex Oak. No. 1. — Circumference of the trunk, 11 ft.; height, about 85 ft.; elevation above the level of the sea, about 600 ft.; soil, red loam; substratum, red stone conglomerate.

This fine tree is one of a very remarkable group, standing in an elevated and exposed situation, open to the sea breeze, on the confines of Haldon; it has a well-formed elliptical head. The glossy black green foliage of this group appears to great advantage in the winter, while the surrounding trees are nearly all leafless; in fact, there is something particularly delightful in the evergreen oaks for which our Devonshire is so celebrated, which none but those who, on one of our mild sunny December days, have seen the sun glancing upon them, can fully appreciate. There can be no doubt that the ilex oak will endure a great deal of hardship; and that it will flourish even in the immediate vicinity of the sea, as has previously been observed by your zealous and indefatigable correspondent Mr. Rutger. (See X. 495.)

Quercus Ilex. No. 2. — Circumference of the trunk, 14 ft.; height, about 70 ft.; elevation above the level of the sea, about 400 ft.; soil, red loam; substratum, red stone conglomerate.

This tree stands quite detached in the midst of the park. It has a fine, round, and compact, but not formal, head.

Quercus Ilex. No. 3. — Circumference of the trunk, 22 ft.; height, about 55 ft.; elevation above the level of the sea, 250 ft.; soil, rich sandy loam; substratum, red sandstone.

This tree is sheltered from all annoying winds, and is in a most favoured situation; the head is elliptical, and is formed by numerous large limbs, each of which would make a very respectable tree.

Quercus Cérрис hybrida var. *dentata*? (Sweet's Hort. Brit.), *Quercus Cérрис dentata* (Loudon's Hort. Brit.), ? *Fulham Oak*. — Circumference of the trunk, 13 ft. 5 in.; height, about 80 ft.; elevation above the level of the sea, about 500 ft.; soil, sharp red loam; substratum, red sandstone.

This tree is a wonderfully fine one; and I cannot sufficiently express my admiration of it. It has a fine broad spreading head, and finely tapered stem, with most luxuriant, large, glossy foliage. I am very desirous of calling your attention to this tree. I have described it above as the Fulham oak; for, upon a minute comparison of it with some specimens of that tree in our nursery, I am not able to perceive any difference: of course, making some allowance between the foliage of very young trees, such as ours, and that of a tree more than a hundred years old. I send you, however, a branch for your inspection. [This must have been accidentally forgotten, as it was not among the specimens received.] The original tree of the Fulham oak is said to be in the nursery of my highly respected friend Mr. Reginald Whitley, at Fulham; but I should think this tree very much exceeds the dimensions of the one there. [The dimensions of the original tree in the nursery of Messrs. Whitley and Osborne have been kindly sent to us by Mr. Osborne, jun., and are as follows: — Height, 75 ft.; diameter of the space covered by the branches, 54 ft.; circumference of the trunk at 1 ft. from the ground, 11 ft. 6 in.] The leaf, the bark, the habit, and contour of the two trees are so very similar, that, if the tree at Mamhead be not the true Fulham oak, it so nearly approaches to it, that I am unable to distinguish any difference; but I leave it to you and others to decide the point. Should it prove to be the same as the one at Fulham, the question then will arise, Is not the Fulham oak a distinct species of *Quercus*; and not a mere seminal variety of *Quercus Cérрис*, as Mr. Sweet, in his *Hort. Brit.* (which I have quoted above), makes it to be? It is, at all events, a very interesting question.

Quercus Cérрис, Turkey or Wainscot Oak. No. 1. — Circumference of the trunk, 12 ft.; height, about 100 ft.; elevation above the level of the sea, 500 ft.; soil, sharp loam; substratum, red stone conglomerate.

In a sheltered and favoured situation.

Quercus Cérрис. No. 2. — Circumference of the trunk, 15 ft.

3 in.; height, about 90 ft.; elevation above the level of the sea, about 500 ft.; soil, red loam; substratum, red stone conglomerate.

A detached exposed situation; fine, compact, round, but not formal, head.

Quercus Cérris. No. 3. — Circumference of the trunk, 14 ft. 1 in.; height, about 80 ft.; elevation above the level of the sea, 500 ft.; soil and substratum, as before. Fully exposed situation.

Quercus coccinea, *American Scarlet Oak*. — Circumference of the trunk, 7 ft.; height, about 30 ft.; elevation above the level of the sea, about 450 ft.; soil, red loam; substratum, red sandstone.

A fine, thriving, vigorous tree, with very large luxuriant foliage; of which I send you herewith two specimens. [The largest of the leaves sent measured $8\frac{1}{2}$ in. across, and 13 in. in length; the smaller, 8 in. by 12 in.: both were much shrivelled.] This is a highly ornamental tree; and the autumnal tints of its fine foliage are rich contrasts to the rather monotonous "sear and yellow leaves" of our own indigenous trees. The American scarlet oak ought to be more planted than it is.

Taxus baccata, *Yew Tree*. — Circumference of the trunk at 1 ft. from the ground, 26 ft. 6 in.; circumference at 6 ft. from the ground, 31 ft.; height, 40 ft.; elevation above the level of the sea, 450 ft.; soil, churchyard; substratum, red sandstone.

This tree stands in the churchyard, which is situated in the park; and finely contrasts its melancholy boughs, which, fortunately, have never been disfigured by clipping, with the red stone tower of the church, close to which it grows, and nearly surmounts. This is a very remarkable tree; and you will, perhaps, ask how it is that the circumference is so much greater at 6 ft. from the ground than it is at 1 ft. from the same: all I can say in answer is, that such is the case. In the centre of that part of the tree whence the branches diverge, there is an open space, sufficient for about twelve persons to sit round a table, if placed there. This space was occasioned by the cutting out of the central limb, for the purpose of making a pulpit for the church adjoining, in 1749. This pulpit is now sound, and stands in the church. I send you a memorandum, kindly furnished by the rector and churchwardens of the parish, to the foregoing purport. [Not received.]

Cuprèssus sempervirens, *Upright Cypress*. — Circumference, 3 ft. 4 in.; height, 45 ft.; elevation above the level of the sea, about 455 ft.; soil, red loam; substratum, red sandstone.

This tree lost 12 ft. of its top, in a gale of wind, about five years since, without, however, being disfigured by it; and is now rapidly regaining its leader. It forms a beautifully compact green obelisk; which finely sets off the adjoining grove of cedars

of Lebanon, with their superb, horizontal, cloud-like branches. I think that the upright evergreen cypress is shamefully neglected: no tree, when placed judiciously, adds more to the beauty of the scene than this does; and it is much to be regretted that it is not more frequently planted. See how finely Martin avails himself of it in some of his beautiful illustrations of Milton's *Paradise Lost*.

Pinus Picea L. [*Abies Picea*], *Silver Fir*. No. 1. — I cannot consent to divide the grand natural genus *Pinus*, by making use of modern terms; but give their old familiar names. Circumference, 12 ft. 2 in.; height, 90 ft.; elevation above the level of the sea, about 600 ft.; soil, sharp loam; substratum, red sandstone.

Pinus Picea. No. 2. — Circumference, 11 ft. 9 in.; height, 100 ft.; elevation above the level of the sea, 700 ft.; soil, sandy peat; substratum, flint and sandstone.

The wind dispersing the seeds from a fine group of these trees, several thousands of seedlings have sprung up, spreading over a surface of many acres; where they are vigorously making their way upwards among the surrounding plantations: thus forming a most beautiful verdant underwood in places where, owing to the height and thickness of the original trees, no other kind of undergrowth could exist. I measured one of these seedlings, and found it to be 35 ft. high, and 4 ft. 2 in. in circumference. There are, indeed, many thousands of them from the height of 6 in. up to 35 ft.; some of which have actually established themselves upon the extreme summit of Haldon, a barren exposed heath. The group from which I have selected the above specimen stands on the north-east end of Haldon; the soil, now covered for many acres with thriving trees of various sorts, was originally thin and poor, the substratum being nearly all flint and green sandstone, with a thin covering of peat. We thus have here a striking proof of the great benefits arising from planting poor and comparatively valueless soils; for a surface of full 4 in., and in many cases 6 in., of rich black vegetable mould has been gradually formed by the fall and decay of the leaves for many years: thus spreading, over a surface of many acres of a previously poor district, a rich and valuable coating of the essence of vegetation, which would require another Deluge before it could be scoured away.

The plantation thus alluded to is fully exposed to the north, north-east, and easterly winds. On the summit of the hill, 800 ft. above the level of the sea, stands an obelisk, erected, in 1743, by Thomas Ball, Esq., the then proprietor of this magnificent demesne, “out of a regard to the safety of such as might use to sail out of the port of Exon; or any others who might be driven out to sea.” This obelisk commands an extensive and glorious view over a tract of country rarely, if ever, equalled in

luxuriance in any part of England; and a prospect out to sea many leagues in extent.

Magnòlia grandiflòra var. *obovàta*.—Circumference of the trunk, 2 ft. 10 in.; height, 21 ft.; diameter of the space covered by the branches, 22 ft.

Magnòlia grandiflòra var. *exoniénsis*.—Circumference of the trunk, 3 ft. 2 in.; height, 22 ft.; diameter of the space covered by the branches, 21 ft. 6 in.

Magnòlia grandiflòra var. *lanceolàta*. No. 1.—Circumference of the trunk, 4 ft. 1 in.; height, 20 ft.; diameter of the space covered by the branches, 31 ft. 6 in.

Magnòlia grandiflòra var. *lanceolàta*. No. 2.—Circumference, 3 ft. 5 in.; height, 21 ft.; diameter of space covered with branches, 28 ft. 6 in.

Magnòlia grandiflòra var. *lanceolàta*. No. 3.—Circumference of the trunk, 3 ft. 2 in.; height, 20 ft.; diameter of space covered by the branches, 21 ft. 6 in.

[Specimens of all these varieties have been received; and we found them remarkably large and beautiful.]

You have, as above, three distinct varieties of *Magnòlia grandiflòra*; and I have given the diameter of the space covered by their branches as the readiest way: for the magnolias, from which the above were selected, consist of fourteen trees growing so close together, and so in among each other in one direction, that I took the diameter of the space covered by their branches, instead of the circumference; which would not, perhaps, be exactly three times the diameter I have given, but very nearly so. *M. grandiflòra* var. *lanceolàta* is the only one of the three varieties that has any capsule fairly formed. The ferrugineous coating on the under side of the leaf is much thicker in this variety than in any other.

These fine trees grow on the top of a terrace in front of the hot-houses and orangery; and are, in every respect, fully exposed, though in a favoured situation. There are fourteen magnolias on the terrace, consisting of the varieties above enumerated; which are covered, during a considerable part of the year, with thousands of flowers, diffusing their delicious fragrance around to a great distance. This terrace originally was a sloping bank; and, in order to form a proper level for it, a large quantity of soil was added, which has covered the stems of the magnolias fully 4 ft. to 5 ft. deep: and although this has, of course, materially diminished their height, it has added very greatly to their luxuriant growth; for they have rooted out, into the rich sandy soil thrown round them, up to the very surface, which is now a dense mass of healthy fibres. This was done only four years since. Although, perhaps, there may be some taller trees of this sort in Devonshire, still, when I take into consideration that this splendid row of fourteen trees covers a space 162 ft. long

and 30 ft. broad, having no support or protection in any manner, I have never seen anything of the kind that can at all be compared with them.

And, now, I am fearful you will consider my account a tedious one, although it is a subject that I feel a strong inclination to extend to a much greater length, more particularly as these fine trees were planted by my grandfather, the late Mr. Lucombe (the raiser of the Lucombe oak, and the founder of this nursery), who lived gardener, for many years, to the above-mentioned Thos. Ball, Esq., of Mamhead. I will, therefore, conclude with these observations, that I have been assisted (with Mr. Newman's kind permission) by Mr. Willis, the intelligent and eminently successful gardener at Mamhead; and that we have estimated the dimensions of all rather less than above their real growth.

If you consider these remarks worth your insertion, I shall have much pleasure in again sending farther notices of our Devonshire trees.

Exeter Nursery, Jan. 1. 1835.

SUCH communications as the above are exceedingly interesting to us; and, as we believe they are so, also, to most of our readers, we shall be happy to hear again from Mr. Pince, and to receive similar accounts from all quarters.

To Mr. Pince's account it may be interesting to add the following description of Mamhead, from the second volume of Polwhele's *History of Devonshire*, published in 1793:—

“The woods and plantations of Mamhead are numerous and extensive. Many of the trees of which they are composed were introduced by Mr. Thos. Ball, the last of that family; who, on returning from the Continent, brought with him a quantity of cork trees, ilices, wainscot oaks, Spanish chestnuts, acacias, cedars, and other species of exotic trees. With these he embellished the boldly swelling grounds at Mamhead; yet, according to the taste of the times, he either introduced or preserved the formalities of enclosing walls, geometrical gardens, and parallel terraces. Most of these incongruities existed when the late Lord Lisburne came to the estate; who soon engaged in the arduous and expensive task of restoring the ground to what, he presumed, it was before. This has been effectually done; and Mamhead now appears as one natural and extensive enclosure, with various prospects of sea, river, and country. Towards Haldon, the most beautiful plantations of the finest forest trees in Devonshire are crowned, at the top of the hill, by a noble obelisk, which was built by the last Mr. Ball. This obelisk, which stands on Mamhead Point, consists of Portland stone, and is about 100 ft. in height. In front of the house, we cannot but admire the easy swell of the lawn, whose smooth verdure is relieved by groups of trees and shrubs most judiciously disposed; while, at one extremity, the eye is attracted by Gen. Vaughan's picturesque cottage, and, a little beyond these grounds, by a landscape which no scenery in this country exceeds in richness. On this side of the Exe are to be seen the ancient castle and possessions of Courtenay, and Kenton, and the village of Starcross; on the other side, Exmouth, Lymptone, Nutwell, and the Retreat, with the country stretching away to the Dorsetshire and Somersetshire hills. In the mean time, the river itself, and the sea in full prospect, give an additional beauty to the scenes I have described.” (*Polwhele's Devonshire*, ii. 156.)

ART. V. *Notices of the more rapid-growing Timber Trees in the Plantations at Heath House, Staffordshire.* By Mr. JOHN HOWDEN.

OF our trees, twenty years from the nursery, the common oaks average from 20 ft. to 25 ft. high. The Turkey oaks average from 25 ft. to 30 ft. high, and are rather thicker in proportion than the common oak. The scarlet oak is only from 12 ft. to 15 ft. high, and thin in proportion. The sweet chestnuts rival the Turkey oaks in height, and surpass them in thickness. The Canadian elms [*Ulmus americana Ph.*, the white American elm of the nurseries] excel the whole in height; being from 30 ft. to 40 ft. high. These elms are not so thick in proportion as the sweet chestnut; yet they are so beautiful, so straight, and their branches so finely spread out, that they are quite the favourites of the forest.

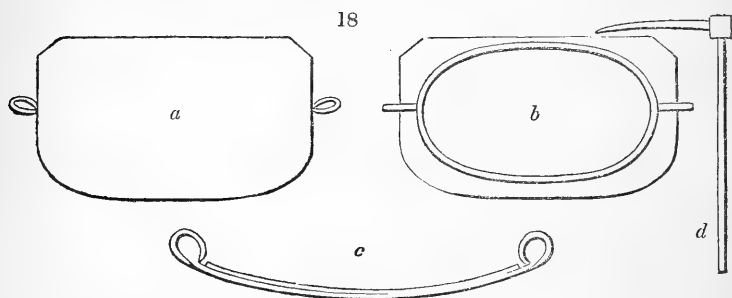
The cedars of Lebanon are about 15 ft. high, but very thick in proportion. The yews and hollies, of the same age, and in the same soil, are only from 8 ft. to 10 ft. high, with stems but little thicker than a thresher's flail. The purple beeches grow slower than the common beeches; and so do all the varieties of the ash and sycamore. All the variegated hollies grow slower than the common green holly. The tulip tree and platanus, with all the varieties of the walnut tree which we have, grow very slowly. Some walnuts from abroad, which were sent here for the dessert, of very peculiar shapes, were reared in pots for five years; they have been planted out for ten years; but none of them are as yet 5 ft. high. I do not know their specific names. Most of the maple family grow very slowly.

The beech and sycamore I would exterminate from our woods altogether, since wooden spoons, bowls, and trenchers are got out of fashion; and cast-metal wheels have no need of wooden cogs. [Wooden cogs are generally supposed to work more kindly into iron cogs than other iron ones.] The beech is very ornamental as a single tree; so is the lime tree, with those who fancy it; but I cannot make so much of the timber as I can of the despised Scotch pine. The beech, sycamore, and lime occupy too much land in most woods; and, though the beech makes good hedges, the hornbeam does as well, and is better timber. The crab tree makes excellent timber; but it has been shamefully neglected in this country: if it were pruned up in its youth to 10 ft. or 12 ft. high before grafting, it would produce timber as well as apples; and furniture made of its wood is truly beautiful. What, also, can be more beautiful than the timber of the common wild cherry?

Heath House, Jan. 1. 1835.

ART. VI. *On some Instruments for transplanting large Trees, and the Manner of using them.* By MR. HENRY PRATT, Gardener to William Harrison, Esq. F.L.S. H.S. &c.

I AM induced, from having myself experienced the benefit to be derived from the use of some implements for transplanting large shrubs, to give you a description of them, and of the method of using them. These instruments (*fig. 18.*) are made of



a, Upper surface of the carrier, or handbarrow, formed of sheet iron. *b*, Under side of the same, showing an oval iron band, firmly riveted to the sheet iron, to stiffen it: this band is about an inch broad, and the fourth of an inch thick, and the two handles shown at each end are welded into *c*, longitudinal section. *d*, Small pick.

sheet iron, of three dimensions; 4 ft. by 2 ft. 6 in., 3 ft. by 1 ft. 9 in., and 2 ft. 2 in. by 1 ft. 3 in.: they are rounded at the corners, a little turned up at the ends, and are strengthened by flat iron bars underneath, carried round near the edges. These iron bars are welded into handles at each end, and the handles are kept above the ground by the ends of the irons being turned up. The ground is opened at a distance from the stem, regulated by the size and nature of the plant intended to be moved; and the fibres are carefully tied up, as they are met with, to the stem of the plant.

The small pickaxes (*d*) described by Sir H. Steuart were used in this garden, with the above irons, long before his book was published; and, by their use, the plant is completely undermined on three sides, leaving the remaining side undisturbed till the iron (*a*) is put under the plant, when that side is cut down, and the plant falls upon the iron; and, if not sufficiently in the middle, is easily slipped into the centre of the iron.

If the plant is large and heavy, an inclined plane is dug on the most convenient side of the hole, and, a rope being put into the iron handles, the plant is hauled out. A short strong board is, in some states of the ground, used for this. The plant may then, if not too heavy, be carried on a handbarrow, which admits of the application of the strength of six men; two between the handles, and the other four on the outside. Heavier plants,

which are to be carried any distance, are lifted on a truck with low wheels, made strong for the purpose; and, if too heavy for this mode, as many boards as are wanted are laid down in succession, and the plant is hauled by the iron upon these boards to the place where it is to be planted. The plant is invariably hauled into the new hole on the iron, which is not removed till its proper position is ascertained: this prevents disturbance of the ball of earth or roots. The plant is then lifted a little on one side, and the iron drawn out; earth is then filled in to the level of the fibres, which are untied and laid out straight, and the plant is earthed up. The heaviest plants, Portugal and other laurels, 8 ft. and 9 ft. high, and 6 ft. or 7 ft. in diameter, which cannot be lifted by any strength that can be applied without injury to the ball of earth and roots, are thus moved with great ease and expedition, with large balls of earth, and without any disturbance of the roots; and, consequently, the plants invariably proceed in their growth, often without experiencing the slightest check.

Not a single failure has occurred, since I have been here, in transplanting numerous plants of the above size, which have been twice removed within eighteen months. I am justified in stating that six or eight plants can be removed by these aids, in the same time as is occupied in removing one or two without them; and many plants, which could not safely be transplanted, for want of means of carrying large unbroken balls, and all the small roots, without bruising or injury, are, by the use of these irons, transplanted with certain success.

I may also add, that considerable experience has proved that the best period for removing most evergreens is the middle of summer, that is to say, in July and August, after the growth of the spring shoots.* The plants may then require a little shading with mats, if the sun is powerful; and they should have plenty of water: but they will make roots during the remaining part of the year, and will grow in the next spring as if they had never been transplanted. Those removed in the winter often remain without making new shoots the whole of the following year.

The frequent successful removal of numerous large plants, since I have been here, has often excited the surprise of visitors; and this leads me to hope that this communication will be favourably received, and that it may be deemed worthy of insertion in your valuable Magazine.

Cheshunt, Hertfordshire, Dec. 15. 1834.

* Mr. M'Nab prefers "late in autumn, winter, or very early in spring; that is, any time from the middle of October till the middle of December; always provided that the weather and the ground are favourable." Additional particulars, well worthy perusal, are quoted in our VII. 78—80., from Mr. M'Nab's pamphlet on planting evergreens. — *Cond.*

ART. VII. *On the Culture of Tropical Orchideous Plants.*
By Mr. R. GLENDINNING.

THE attention of the lovers of rare plants has been more particularly arrested by the many beautiful species of orchideous epiphytes lately imported, than, perhaps, by all others put together. Very considerable difficulty has hitherto attended the cultivation of these plants, except in houses exclusively appropriated to them; and, from this circumstance, they are not yet likely to become so universal as might be desired, or as their wonderful variety, their diversity of colours, the perfume of many species, and the elegant and curious organisation of all, might be supposed to deserve. It is evident that they generally require different treatment from the greater proportion of hot-house plants: some, perhaps, as Dr. Lindley observes, may not require so high a temperature as others; but these will be found to be comparatively few: most of them, I am confident, require less sun, and all of them less air, than is generally admitted into our common stoves. A highly excited temperature, abounding with moisture, is apparently what they like; *humidity*, but not *saturation*.

As little change is likely to take place as regards a taste for these charming plants, an account of a successful plan of cultivation adopted by any of your readers, in hot-houses appropriated to a miscellaneous collection of plants, would, I am sure, be very acceptable. While I state the mode adopted by myself, I do not arrogate to it perfection; but shall be happy, through the medium of the *Gardener's Magazine*, to receive any information on this interesting subject.

Instead of plunging the hot-house plants, I have placed them on a Portland stone stage, in the centre as well as along the front, ends, and back of the house. This stove is heated by a machine of Kewley's, which is by far the best of three different principles of hot water erected here. The boiler is situated in the north-east angle: immediately over it, and for some distance along the end and back, is placed the principal part of the collection of orchideous plants on the stone stage. This part of the stage has an edging of stone, about an inch high, let in at front and back; and all the joints are made watertight. Pieces of round stone, neatly worked, about an inch thick, and the size of the bottom of the pots, are placed on the stage to receive the pots. At intervals, I pour water on the stage; and, from the porous nature of Portland stone, it is continually filtrating on the hot pipes, which, to a certain degree, produces a constant evaporation of steam. As the plants are surrounded with water, this prevents the migration of woodlice, and also tends to increase the humidity of the atmosphere of the house. A vessel of water is

kept on the cover of the boiler, with a syringe ; and, two or three times in the course of the day, according to the weather, the plants are slightly moistened with this warm water. By this mode of treatment, and by admitting very little air at this end of the house, I have been enabled to flower a number of species.

Bicton Gardens, Dec. 28. 1834.

ART. VIII. *Hints for the Cultivation of Epiphytal Orchídeæ, derived from Observations made during a Botanical Excursion through Demerara, Trinidad, and the Spanish Main.* By Mr. JOHN HENCHMAN.

HAVING read the account of the nature and habits of Orchídeæ (p. 1.), by their spirited and enthusiastic admirer, J. Bateman, Esq., I am induced, with the design of furthering a little the cultivation of these interesting plants, of which, at present, we know so little, to offer to your readers the result of the observations I have made on the habits of Orchídeæ during my researches for that tribe of plants in Demerara, Trinidad, and the Spanish Main, in the course of the past year. The collecting of Orchídeæ having been the sole object of my visit to the West Indies, I endeavoured, as may be naturally supposed, to acquaint myself, as far as circumstances would permit, with the position generally occupied by epiphytal Orchídeæ, and the effects produced upon them by exposure to light and sun, by the changes of the atmosphere, and the natural vicissitudes to which they are subjected ; such as the death or fall of the tree or branch on which they have been growing, &c. : and I feel the more confidence in submitting this small essay to the public, from having had an opportunity, immediately before my departure from Trinidad for England, of comparing notes with, and receiving many useful hints from, my scientific friend, Mr. D. Lockhart, curator of the Botanic Garden of Trinidad, who is highly and deservedly valued by all who have the pleasure of corresponding with him ; and whose disinterested kindness and attention to myself, during my stay in Trinidad, I shall ever remember with gratitude and pleasure.

Mr. Bateman will, I am sure, excuse me for making a remark on one of the passages of his interesting communication, which appears to me calculated to mislead its readers with respect to the position occupied by Orchídeæ.

The passage to which I allude is in page 2., and commences with, —“Flourishing as the various epiphytes appear,” &c. This passage would lead any reader to suppose that Orchídeæ, ferns, tillandsias, &c., are generally found smothered together and destroying one another. Never was there a more mistaken idea ;

and, however natural the passage may appear, and however pleasing the illustration drawn from it, yet, as respects *Orchidéæ*, it is entirely incorrect. True it is, that trees may be seen covered, both stem and branches, by huge masses of *tillandsias* and *bromelias*, as well on the sea coast as in the depths of the forest; as well exposed to the scorching rays of a tropical sun, as in the moist atmosphere of a morass; as well on the fine uplands of Trinidad, or on the immense ridges of mountains in the Spanish Main, as in the low swamps of Demerara: but, so far from *Orchidéæ* forming the base of these masses, I have observed it to be almost invariably the case, that where the trees are seen covered with *tillandsias*, &c., it is in vain to search for *Orchidéæ*. Sometimes, indeed, I have found, growing among masses of *Orchidéæ*, a few stunted *tillandsias*; but rare, indeed, is it to see them flourishing together. I confess that this created a good deal of astonishment in my mind; for, considering their habits to be so similar, I concluded that, where the one was, the other would be found also. But, to follow up Mr. Bateman's idea, *Orchidéæ* may be compared either to the lion, who, confident in the abundance of his strength, sets at defiance all resistance to his sway, or to the timid unoffending hare, which, conscious of her own weakness, retires to some quiet spot, the least liable to intrusion. The latter character is applicable to most of the species of *Orchidéæ* that have come under my observation. I will, however, mention a few species which I have seen displaying the former character.

In Demerara, masses of *Oncídium altíssimum* and *Maxillària Parkèrzi* are to be seen, which would defy any attempt at intrusion; and, again, on the Spanish Main, I have seen the epiphyte commonly called the spread eagle, which, I surmise, will prove an epidendron, clasping enormous trees, and covering them from top to bottom; and also two or three species supposed to be *maxillarias*, which were growing with uncommon vigour. With the above exceptions, I have not found *Orchidéæ* growing in such quantities as it has been reported they do; but often, as Mr. Bateman justly observes, single specimens only are to be obtained. This cannot be more strongly illustrated than in the case of a beautiful *Oncídium*, which I was happy enough to meet with on the Spanish Main; its leaves are nearly 6 in. in width, of a very firm texture, and possessing an uncommonly strong nerve; and though the plant, judging from the remains of the original stem, which had gradually decayed as the plant progressed, must have occupied its station for nearly half a century; yet I searched the neighbourhood in vain for another specimen, nor did I see another plant of it on the Main.

Nor do *Orchidéæ* generally grow in such high situations upon

trees as is usually supposed. Twenty or twenty-five feet is the greatest height, with few exceptions, at which I have seen them growing. Some of the bulbless epidendrons, the spread eagle plant, and *Oncidium papilio* attain a much greater height. The other oncidiums I have not seen growing above 7 ft. or 8 ft. from the ground, and generally on some of the small closely interwoven branches, and not on the stem or main branches of the tree. The various species of *Gongora*, *Corysanthes*, and *Rodriguezia* are, almost without exception, found in the same positions; while, again, the genera *Maxillaria*, *Fernandesia*, *Epidendrum*, *Ceratophilus*, *Cattleya*, *Zygopetalon*, *Brassavola*, *Ornithidium*, *Camaridium*, *Pleurothallis*, *Brassia*, *Ornithocephalus*, *Trizeuxis*, *Catasetum*, and many other genera supposed to be new, I have found always attached to the trunk or strong limbs of the tree, which they clasp with surprising tenacity. It may be also observed that rough and soft barked trees are favourite habitats of *Orchideæ*. The calabash tree, which has a peculiarly soft and woolly bark, often possesses many of the more minute species. Indeed, I sent home pieces of the calabash tree, about a foot long, on some of which were six and on others seven distinct species of *Orchideæ*; but, unfortunately, all perished, with one exception, which is still alive and doing well. It possesses three or four small oncidium-like bulbs, and the last year's flower-stem complete; and it has now pushed out two fine strong shoots, and yet, by twisting the flower-stem a little, it might all be put into a common nutshell. It is much to be regretted that the length of the voyage renders it impracticable to introduce many of these small and interesting species. I have observed that *Orchideæ* appear to rejoice in a light situation and a free circulation of the atmosphere; but are decidedly adverse, with few exceptions, to exposure to the intense rays of the sun. We may except from this remark *Oncidium luridum*, the *Catasetum*, and a fine pseudo-bulb found on the Spanish Main (which I suppose to be an *Epidendrum*), which seem not only to exist, but to rejoice, in exposure to the sun; while, of the others, some are quickly burnt up and destroyed, especially those which possess pseudo-bulbs of a soft succulent nature; and some, though they may exist for a time in a languishing state, fall ultimately victims to their powerful enemy. This part of the subject leads me to remark, that I have seldom seen *Orchideæ*, in a flourishing state, upon dead trees either standing or fallen. The point to be considered, then, is, do *Orchideæ* derive any nourishment from the trees to which they are attached? I am of opinion that, to a certain degree, they do; for the bark of a living tree must surely afford some slight moisture to the roots of the *Orchideæ*; and at the same time the foliage affords it an agreeable shade.

That Orchídeæ cannot subsist long on dead *standing* trees is, I think, obvious; for the bark must become so heated and dry as to absorb or destroy any moisture the plant may derive from the atmosphere or contain within itself. But, again, this will by no means apply to those remaining on dead *fallen* trees; as we may suppose them to be shaded by the neighbouring trees; and I can only account for their sickly appearance by supposing that the circulation of the air is not so free, and that they do not imbibe so much of the moisture proceeding from the rivers and low grounds.

The atmospheric changes are very great in tropical climates; and, as I consider that Orchídeæ derive their main support directly from the atmosphere, I think too much attention cannot be paid to the various changes by which they are, in their natural state, liable to be affected. One of the principal objects kept in view by growers of Orchídeæ appears to be the keeping up a regular heat in their stoves. Nothing can be more contrary to nature: for, in the tropics, to a sultry day, with the thermometer standing at from 85° to 95° , succeeds a cool night and a cold morning, the thermometer falling to 60° or 55° ; effecting, in twenty-four hours, a change of temperature of from 20° to 30° . During the dry seasons, periods of two, three, and often extending to five and six months, the whole nourishment derived by the Orchídeæ must be communicated through the agency of the tree to which they are attached, or from the atmospheric moisture which is the effect of the action of the sun upon the dew which has fallen during the night and morning: for the situations generally occupied by Orchídeæ preclude the possibility of the dew reaching them in its descent; and, slight though the moisture be which is communicated through these channels to Orchídeæ, it is nevertheless sufficient to retain the vital principle in the pseudo-bulb, though not sufficient to rouse it into action. The dry season, then, appears to act upon Orchídeæ on much the same principle as our winter acts upon our trees, &c. It is for them a period of rest; and the pseudo-bulbs, having been well ripened, are ready, when the wet season has given them a sufficient stimulus, to push forth luxuriantly both leaves and flowers.

It sometimes chanced that Orchídeæ become detached from their natural position by wind or some other natural cause; and the only epiphytal Orchídeæ I have seen thriving on the ground are *Oncídium lûridum* and the various *catasetums*. These appear to do as well in mould as on trees. The other genera I have found in that situation were evidently fast decreasing and verging to decay. But the contact with the mould appeared to have a curious effect upon *Oncídium papílio*, which I found in abundance on the Spanish Main; namely, that of darkening the

colour both of its pseudo-bulbs and elegant leaves. I will not trespass farther on the patience of your readers, than to give you a slight outline of the method I should wish to see put in practice by some enterprising and intelligent gardener, for the cultivation of epiphytal *Orchideæ* in our stoves.

We will suppose two houses, of reasonable dimensions, to have been built for the reception of a fine collection of epiphytal *Orchideæ* just arrived from their native country; and, having produced in one of these houses a rather moist temperature of about 70°, we will proceed to get ready our plants.

I have a most decided objection to placing epiphytal *Orchideæ* in mould or in pots; because, as I have before said, I consider that *Orchideæ* derive their principal support from the atmosphere; and, by burying their roots in mould, you deprive them of any nourishment except that which they can derive from the moisture of the mould; and, at the same time, you run the risk of causing the pseudo-bulbs to rot, by communicating to them moisture, and preventing that action of the atmosphere which, in their natural state, saves them from rotting.

Let us, therefore, prepare a few pieces of wood, each with the bark on, and cover them with a slight layer of, if possible, fresh moss; and, having trimmed off the dead roots of our pseudo-bulbs, let us bind them to the wood with fine wire, and suspend them from the rafters, or rather, from rods fixed for that purpose. This will allow of a free circulation of the air, and will also prevent their being attacked by their voracious enemies the woodlice. If it be necessary for convenience to place some of them in pots, I would recommend the plan adopted by Mr. Low, from some hints which I gave him:—Let the plant be affixed to a piece of wood of convenient size; then let the lower end of the wood be placed in the pot so that the base of the pseudo-bulb may be even with the rim of the pot; then fill up the pot with crocks and pieces of good peat turf, the mould having been previously beaten out. By this plan, the plant has the choice of throwing its roots over the surface of the peat, &c., or of clasping the piece of wood to which it is affixed, and which, at the same time, serves to keep it steady.

I have, since my return to England, seen a plan pursued by Mr. Pratt, the intelligent gardener of W. Harrison, Esq., Cheshunt, which I think likely to answer. He has suspended from the rafters of his orchideous house, globular shapes composed of strips of zinc, which being filled with very rough peat and pieces of old wood, the plant is placed on the top; and, although it is only a few weeks since Mr. Pratt commenced the experiment, the plants so treated are already pushing their roots vigorously over the peat, &c., and are looking remarkably well.

Let us continue the temperature of our house at 70°, by day,

for a fortnight; reducing it to 60° by night, and communicating a little moisture by steaming. After this period has elapsed, let us increase the heat in our house, in the daytime, till the thermometer reaches 85° , being reduced, as before, to 60° at night; and the strong and firm-looking pseudo-bulbs may be well syringed three or four times a day, and well steamed the first thing every morning. This treatment I should continue till the plants began to break and root; when, if the weather was at all favourable, I would draw down two or three of the lights, and admit the fresh air for a few hours every day.

When the plants have made a good growth, and as they become what we may call established, let us remove them into our second house, in which the thermometer must be kept at from 80° to 85° by day, at night reduced to 60° or 55° , and allow them no moisture, except a good steaming once every morning. Let us continue this check upon them for two or three months, and then again remove them to our moist house, in which we must not allow the temperature, by day, to be lower than from 85° to 90° ; nor higher, at night, than 60° ; and must syringe them well and copiously seven or eight times, at least, in the day; at the same time allowing the entrance of a little fresh air, if it can be accomplished without decreasing too much the heat of the house.

With this treatment, I am much mistaken if we shall not find the *Orchideæ*, now so apparently shy of flowering, throwing out vigorous shoots and fine masses of flowers, which will amply repay the trouble taken with them; for, perhaps, it would be difficult to point out any tribe of plants, in their own country, which flowers more abundantly and universally than epiphytal *Orchideæ*.

Should I receive from you an intimation that such a communication would prove agreeable to your readers, I will endeavour, at a future period, to send you a brief account of the mode of travelling in Demerara, and an account of the habits and nature of the aboriginal Indians, and their character in comparison with that of the negroes of the British colonies.

Clapton Nursery, Jan. 3. 1835.

FOR the above most interesting and valuable account we are exceedingly obliged to Mr. Henchman. It cannot fail to be of the greatest use to cultivators of this most interesting family of plants. We need hardly say that we, and, we are sure, all our readers, will be much gratified by any farther communications from him on the mode of travelling in Demerara, or on any other point connected with the subject of this article. — *Cond.*

ART. IX. *Floricultural and Botanical Notices of newly introduced Plants, and of Plants of Interest previously in our Gardens, supplementary to the latest Editions of the "Encyclopædia of Plants," and of the "Hortus Britannicus."*

Curtis's Botanical Magazine; in monthly numbers, each containing eight Plates; 3s. 6d. coloured, 3s. plain. Edited by Dr. Hooker, King's Professor of Botany in the University of Glasgow.


Edwards's Botanical Register; in monthly numbers, each containing eight plates; 4s. coloured, 3s. plain. Edited by Dr. Lindley, Professor of Botany in the London University.

Sweet's British Flower-Garden; in monthly numbers, each containing four plates; 3s. coloured, 2s. 3d. plain. Edited by David Don, Esq., Librarian to the Linnæan Society.

PLANTS DICOTYLEDONOUS, POLYPETALOUS.

XXXII. Ternströmiæcæ.


2038. CAMELLIA.

18161a híbrida Makoy hybrid *  or Liège ... I p.l

M. Jacob Makoy, nurseryman, Liège, Belgium, has sent us, through Mr. Garvie, foreman in the nursery of Messrs. Low and Co., Clapton, a dried sprig bearing two leaves, a detached dried leaf, and a dried flower, of a hybrid *Camélia*, obtained from *C. japonica* var. *insignis* and *C. euryoides* as the parents. M. Makoy deems the hybrid a very fine variety. In habit, it assimilates much to *C. euryoides*: the leaves are ovate, acuminate, serrate, and slightly pubigerous; the sprig and buds densely pubigerous; the flower is 1 in. across (perhaps more), and has five orbicular petals, which are centred by the cluster of stamens. The petals in the dried state are buff-coloured, with a deeper shade up the centre; they might be, when living, white tinted with red: nothing is stated respecting their colour.

LXXVII. Leguminosæ.


2138. VICIA.

19402a polysperma Ten. many-seeded  Δ or 6 in Pa.P Naples 1833. S co Sw.fl.gar.2s.274

Its beauty entitles it to a place in the flower-border. It appears to come very near our native *V. sylvatica* [which we think a plant of great elegance]. Perennial. Stems many, climbing, 3 ft. to 6 ft. high. Leaves of about eight pairs of leaflets. Flowers disposed, about twelve together, in stalked axillary clusters. Corolla pale purple in the vexillum, nearly white in the keel and wings. Seeds, in each legume, from fourteen to twenty. It should be planted in a gravelly loam; and is easily multiplied by seeds, which it perfects abundantly. We would recommend the seeds to be sown where the plant is intended to remain, as few of the Leguminosæ bear to be disturbed when once planted. [We remember once seeing a stock of plants of that beautiful common plant the everlasting pea (*Lathyrus latifolius*) in the nursery of the Messrs. Fairbairn, Vauxhall, that



were planted in pots; and these were to be plunged in soil, to keep the plants in a condition for being transplanted with success.] The figure of *V. polysperma* was taken from a plant in Mrs. Marryat's collection. (*Brit. Flow.-Garden*, Feb.)

CXLVII. *Crassulaceæ*.

1463. *SEMPERVIVUM*.
12481a *urbicum* Horn. city  or  or ... d.j.f Y Teneriffe 1827. C s.l Bot. reg. 1741

"It flowers in the months December, January, and February; and is one of the handsomest of the shrubby species of this interesting genus." The figure portrays a rosaceous tuft of leaves tipping a branch, as the leaves do in *S. arboreum*; and a fine pyramidal panicle, towards 9 in. long, of golden-yellow flowers; so numerous, and so disposed, as to almost touch each other on every side. Plants of this species are "found commonly on rocks and the roofs of houses in Teneriffe; in inland parts of the island, where the air is damper than in the valleys." It was first found by Dr. Christian Smith; latterly, by Messrs. Webb and Berthelot. Messrs. Young and Penny, nurserymen, of Milford, near Godalming, Surrey, have plants of this and other interesting plants from the Canary Islands for sale. (*Bot. Reg.*, Feb.)


CLVII. *Begoniaceæ*.

2654. *BEGONIA*.
geraniifolia Hook. *Geranium*-lfd   or $1\frac{1}{2}$ s W.R Lima 1833. O l.t Bot. mag. 3387

This species was discovered in the neighbourhood of Lima; and roots were brought to the Glasgow Botanic Garden, by Mr. M'Lean, in 1833. In September of the following year, they produced their exceedingly pretty and very delicate red and white flowers, which contrasted well with the glossy and deep green foliage. . . . Leaves on long rounded footstalks, cordate, the sides nearly equal, plaited, cut into many unequal very acute lobes; these inciso-serrate, green on both sides, paler beneath, above of a full and very bright and glossy green; the margin red, perfectly glabrous, as is the whole plant. Stem about 1 ft. high. [It may produce, under future culture, taller stems.] Peduncles terminal, tipped with the flowers. (*Bot. Mag.*, Feb.)

PLANTS DICOTYLEDONOUS, MONOPETALOUS.

CLXX. *Ericaceæ*.

1174. *DABÆCIA* D. Don 9944 *poliifolia*.
corollâ albâ J. T. Mackay white-corollaed  or $1\frac{1}{2}$ jn.s W Ireland 1830. L s.p Sw.fl.gar.2.s.276

Mr. J. T. Mackay, assistant botanist, Trinity College, Dublin, and curator of the College Botanic Garden, has, in the *Mag. Nat. Hist.*, iv. 167., in a communication dated Jan. 17. 1831, thus spoken of the *Dabœcia* (*Menzièsia*) *poliifolia*:—It "is very abundant on the sides of mountains and dry heaths all over Cunnemara, a wild district of the county of Galway; and in Mayo, as far north as the mountain called Croagh Patrick:

and, although nowhere else found in Britain or Ireland, is indigenous to the south of Europe, being found on the western Pyrenees and at Anjou. A variety with white flowers, of which I have a living specimen in the College Botanic Garden, has lately been found growing sparingly along with the common variety." We have seen a living plant of the white-corollaed variety in the nursery of Mr. Knight, Chelsea.

CLXXIV. *Campanulacæ*.

607. CAMPA'NULA 4931 frágilis.
2 hirsuta Lindl. hairy-herbaged ♀ Δ or 2. s B S. of Italy 1833? S s.l Bot. reg. 1738

"In its native stations, it is one of the most lovely objects imaginable. Often have we heard travellers from Italy expatiating upon the beauty of the spots, which are enamelled with the bright blue patches of this interesting stranger; but it was never our [Dr. Lindley's] good fortune to see it alive, till we met with it in the garden of Mrs. Marryat, at Wimbledon, where our drawing was made, last September." (*Bot. Reg.*, Feb.)

CLXXXVI. *Compósitæ*.

2436. WEDELIA.
†28518 aúrea D. Don golden-coloured-corollaed ♀ Δ or 2 a.u.s Go Mexico 1829. S co Bot.mag.3334

Herbaceous, scabrous. Stem slightly branched. Leaves elliptical, acute. Heads of flowers, three together, terminating the branches. Flowers orange-yellow. (*Bot. Mag.*, Feb.)

CCXI. *Scrophulariæ*.

1718. CHELO'NE.
15462a centranthifolia Benth. Centranthus-lfd. ♀ Δ or 2—7 jl.n.s California 1834? D co Bot.reg.1737

Resembles the beautiful *C. barbata*, from which it chiefly differs in its very long graceful panicle of flowers, whose scarlet tubular corollas, 1 in. long, are more slender, and destitute of a beard at the mouth; and in its differently shaped leaves. The leaf is compared, in the specific name, to that of the *Centranthus ruber* (*Valeriana rubra*). The stem is stated to vary in height from 3 ft. to 7 ft. "It is a species of considerable beauty, growing well in any soil or situation, if exposed to the sun; but best adapted to planting among American plants, from the midst of whose bushy masses its long panicles may rise like slender scarlet plumes." Sent from California, to the Horticultural Society of London, "by Mr. David Douglas, without any intimation of the situation it naturally occupies. Flowers from July to November; produces seeds in tolerable plenty." (*Bot. Reg.*, Feb.)

CCXIII. *Solanæ*.

591. SOLA'NUM.
4734a? Tweedianum Hook. Tweedie's O? □? or 1½ o W.P Buen.Ayres 1833. S co Bot.mag.3385

"Among the numerous species of *Solanum* which we have received from Mr. Tweedie, gathered near Buenos Ayres, is the present one; of which seeds were sent to the Glasgow Botanic Garden in 1833. It produced its conspicuous and lively flowers,

in the green-house, in the month of October: these are of a purplish white colour, with the projecting stamens of a full orange. The foliage is very similar to that of some of the varieties of *S. nigrum*." The flowers are borne in drooping clusters, each of about from five to seven flowers: the corolla is about three fourths of an inch across. (*Bot. Mag.*, Feb.)

482. BRUGMANSIA.

bicolor Pers. two-coloured-corollaed 雙色 or 20 o.n. R.O. Peru and New Granada 1833. C 1 [Bot. reg. 1739
B. sanguinea R. & P., D. Don, who has deemed it more rightful to restore Ruiz's and Pavon's
specific name sanguinea, although these authors had named the plant *Datura sanguinea*, than
the specific name bicolor, which Persoon applied when he removed their *Datura sanguinea* to
the genus *Brugmansia* instituted by himself. Sw. Fl. Gar. 2. s. 272., Gard. Mag. xi. 76.

See in p. 76. *B. bicolor* is, Dr. Lindley states, the priorly published name for this fine plant. The following particulars are additional to those presented in p. 76. Charles Crawley, Esq., has introduced the species: he brought seeds of it with him, from Guayaquil, in 1833. Besides the plants of it raised by Miss Traill of Hayes Place, Kent, Lady Gibbs of Hayes Common, near Bromley, has raised plants of it. From Miss Traill it is communicated, that *B. bicolor* "will not flower in pots; as it has large and spreading roots, and requires a constant supply of moisture." Of the plant in its native places, Dr. Lindley communicates, that its stature varies from 10 ft. to 20 ft., the stem being generally undivided, and terminated by a roundish leafy head. The flowers are succeeded by an oblong, smooth, yellow, pendulous capsule, which is as much as 8 in. long. The seeds are narcotic in a high degree. (*Bot. Reg.*, Feb.)

CCXXI. Labiatae.

3380. PHYSOSTEGIA. Sp. 7.— [Bot. mag. 3386
15192a imbricata Hook. imbricated-flwd. 亞 Δ or 6 end of su. aut Pa. P Texas 1833. D co

Perennial, herbaceous, hardy, ornamental. Stem rising quite erect, 5 ft. to 6 ft. high. Leaves opposite, lanceolate, serrate. Flowers numerous, crowdedly and imbricately disposed in many spikes; displayed during the latter end of summer, and in autumn. Corolla of a red purple colour above; almost white beneath, with a few reddish spots. This species inhabits Texas, as do two others. Plants of *P. imbricata* Hook. were sent to the Glasgow, and, probably, to the other botanic gardens in this country, by Mr. Drummond. It multiplies itself by suckers, which sprout from beneath the surface of the soil around the parent plant. Seven species of *Physostegia* are known. (*Bot. Mag.*, Feb.)

CCXXII. Boraginæ.

429. LITHOSPERMUM.

537a rosmarinifolium Ten. Rosemary-lfd. 亞 Δ or 1½ s B Capri in Italy 1833? C co Bot. reg. 1736
Distinct from the *L. graminifolium* Viv., the *L. rosmarinifolium* Richb., and the *L. fruticosum* L.
— Lindley.

A shrubby herbaceous plant, varying in stature from 3 in. to 2 ft. The branches are invested with leaves which resemble, in figure, those of rosemary; and bear towards their tips axillary

clusters of flowers, whose corolla is of the most intense and brilliant blue. It is a beautiful species, and of the best adapted for rockwork in a mild climate. It appears not to require particular management, except to be protected from wet in winter. The figure published was made from a fine plant flourishing in the rich collection of Mrs. Marryat, to whom the seeds had been brought by Mrs. Palliser. (*Bot. Reg.*, Feb.) This species is mentioned in X. 340.

PLANTS MONOCOTYLEDONOUS.

CCXL. *Orchideæ*.

2523a GROBYA Lindl. (*Right Hon. Lord Grey of Groby, a munificent patron of horticulture, and a most zealous cultivator of orchideous epiphytes.*) 20. 1. Sp. 1.— [*Bot. reg.* 1740
Amhértiæ Lindl. *Lady Amherst's* £ ☐ or ½ s Och.P.Spot Brazil 1829. D p.r.w

The genus *Gröbya* is a near ally of that of *Cymbidium*. *G. Amhértiæ* is epiphytal, has ovate green pseudo-bulbs, 1½ in. long, narrow grass-like leaves, and its flowers are closely disposed in a pendulous raceme 3 in. long. Sepals of a pale-ochraceous colour. Petals marked with dots disposed in rows. Labellum dark purple. Dr. Lindley remarks that the specific name *Amhértiæ* “records the sense we entertain of the claims of the noble family of Amherst upon the gratitude of botanists, for the countenance afforded by them to natural history so long as their power continued in the Eastern world.” (*Bot. Reg.*, Feb.)

2530a MONACHANTHUS Lindl. MONK FLOWER. (*Monachos, monk, anthos, flower; labellum*
of *M. viridis* Lindl. like a cowl.) 20. 1. Sp. 2.—
discolor Lindl. “dingy” £ ☐ or 1 n P.Y Demerara 1834. D p.r.w Bot. reg. 1735

The genus *Monachánthus* has the habit, anthers, and pollen of the genus *Catasètum*. *M. viridis*, found in Brazil, and *M. discolor*, “a very rare plant in Demerara, whence Mr. Bate-man received a single bulb by Mr. Colley, are known.” In *M. discolor*, from pseudo-bulbs about 3 in. long, arise plaited leaves about 9 in.; and a raceme of this length, which bears several flowers: in the one figured, eleven flowers are shown. The sepals are green and brown; the petals and the labellum on its outside more or less purple; and the labellum within yellow. The labellum “looks more like an old rusty iron skull-cap than anything else we can compare it to.” It is fringed along part of its edge or rim.” (*Bot. Reg.*, Feb.)

CCLI. *Liliaceæ*.

1016. LILIUM.
†2417 tenuifolium Fis. slender-lfd. ♀ Δ or 1 jn.jl S Siberia 1820. O p.l Sw.fl.gar.2.s.275

A miniature of the scarlet Turk's cap lily (*Lilium chalcedonicum*). The figure published “was taken from specimens which flowered in the botanic garden, Chelsea, where the plant was unusually luxuriant.” It is a native of the vast steppes of Siberia, where it appears to be abundant; but it is never found beyond 55° lat. N. The bulbs are eaten by the wandering Tartars. [See VI. 322.] (*British Flower-Garden*, Feb.)

1008. FU'NKIA.
lanceifolia Spr. lance-ldd. Δ or 1 au Pa P Japan 1829. D co Sw.fl.gar.2.s.273

Already registered in the *Add. Supp. to Hort. Brit.*; but the figure now cited is the preferable one. Messrs. Loddiges and Mr. Knight possess plants of the species. (*Brit. Flower-Gard.*, Feb.)

ART. X. *Arboricultural Notices; or, Notices of new Hardy Trees and Shrubs, deserving of General Cultivation in Useful or Ornamental Plantations.*

IN our last notice (p. 28.), we strongly recommended some species of *Cratægus*, *Pyrus vestita*, and certain oaks, pines, firs, and, above all, the cedar, for mountainous situations. An Edinburgh correspondent, referring to our plan for forming a drive to the top of the hill called Arthur's Seat, says that we should recommend "the entire hill to be planted with cedars; and the whole of the Pentland Hills to be formed into one grand arbo-retum, planting the peat earth sorts in the natural bogs, and the more tender sorts in the numerous sheltered valleys and concavities which face the south and the south-east." These ideas are grand, and worth contemplating; because they may lead to some minor result.

The main purpose of the present notice, however, is to direct attention to the genera *Acácia* and *Eucalýptus*, as likely to furnish various hardy trees. We refer to our letter from Naples (p. 150.), to show the height which these trees will attain, in a few years, in the south of Europe; and an article, which will appear in our next Number, will show the height they have attained, and their hardiness, in Monmouthshire. In the garden of the Horticultural Society, several species of both genera have stood out the two last winters uninjured; and have attained, in three years, the height of from 20 ft. to 30 ft., and upwards. A shoot of 10 ft., in one summer, is common to these trees. We are informed that there is an *Acácia* in a garden at Wimbledon, a standard, which is between 30 ft. and 40 ft. high, and has never received the slightest protection. We hope the individual who told us of it will be good enough to pay a second visit to the place, and let us know farther particulars. In the botanic garden in Edinburgh there are several species of *Acácia* and *Eucalýptus*, which have stood out for several years without protection; but we will not anticipate the Return Paper, which, we hope, Mr. M'Nab is preparing for us. In the nursery of Messrs. Urquhart, at Dundee, there are some large acacias, standards; and there are several also at Montrose. We should be greatly obliged to the proprietors of these trees, if they would be kind enough to send us particulars of their size, age, &c. There are many trees of these and other foreign kinds, usually

considered tender, in Ireland. We have had an interesting Return Paper from Mr. Nevin of the Glassnevin Garden; and we have seen Mr. Mackay's list in the *Dublin Philosophical Journal*, vols. i. and ii., and reexamined Mr. Mallet's list in this Magazine. We could wish, however, to have a very full Return Paper from Mr. Mackay, and a second measurement from Mr. Mallet. We are greatly obliged to Mr. Murphy for what he has done for us in this respect; and refer all our readers in Ireland to the *Irish Farmer's and Gardener's Magazine* for Feb., p. 89., footnote. We earnestly entreat those, whose names are there mentioned, to write to us.

But to return to our acacias and eucalyptuses, it may be said that the size and apparent hardness of these trees is owing to our late mild winters; and that the first severe winter will kill them to the ground. We do not believe this. After a tree has attained a trunk of 3 in. or 4 in. in diameter, it is not easy to kill it to the ground; and, if the points of the shoots and the smaller branches should be killed even every winter, it is not more than happens every year to the deciduous cypress, which yet attains the size of a very large timber tree. We would strongly recommend every person, who has it in his power, to turn out into his gardens and shrubberies as many species of *Acacia* and *Eucalyptus* as he can procure. If he be afraid of the winter, we recommend a mat to be stretched horizontally over the top of each tree, at the height of 1 ft., or so, above its summit. This mat could be supported by four long poles; and these poles, as the tree advanced in size, might be set up every winter, and taken down in spring. This sort of protection might be carried to a very great extent, when we consider that the poles for scaffolding used by builders may be procured, in every part of the country, from 50 ft. to 80 ft. in length. Perhaps the easiest way would be, to form a triangle with three long poles, a good deal higher than the tree, and to suspend a mat, or mats sewed together, from the apex. If it were worth while to go to the expense, an umbrella might be contrived on the pole, which might be let down during the day or in mild weather, and expanded during the night. No protection of this kind, however, we are persuaded, would be required longer than three or four years after planting; and that protection for that time might, in most cases, be given, by merely sticking in branches of trees. See also the modes suggested by Mr. Bowie, Vol. VIII. p. 8.

Garrya elliptica, figured in the *Botanical Register* for July, 1834, and noticed in X. 401., is a beautiful evergreen shrub. It was brought from California in 1828, and is now (Jan. 20.) in flower in the Chiswick Garden. The leaves, to a general observer, are of the colour of, and not very different in shape

from, those of some varieties of *Quercus Ilex*. Only the male plant has yet been introduced; and its flowers are in catkins 9 in. long, numerous, gracefully pendant, and altogether very ornamental. The plant is very hardy, grows rapidly, flowers freely, and is easily propagated. In value as an evergreen and winter-flowering shrub, it may rank with the *arbutus* and the *laurustinus*; no small compliment. Botanically, also, it is very interesting, as it forms a link between the orders *Cupuliferae* and *Coniferae*. *Ribes glutinosum*, *R. malvaceum*, *R. speciosum*, and the dark variety of *R. sanguineum*, *Escallonia rubra* and *E. montevidensis* (already recommended, p. 30.), *Spiræa arifolia*, *Rubus nutkanus*, *Benthamia fragifera*, *Duvaúa latifolia*, and *Pyrus sinensis* (now in flower), are also, though some of them have been long in the gardens, deserving of every commendation.

Collectors of the genus *Pinus* will not forget that almost all the species may be propagated by cuttings of the young wood in pure sand, treated like those of *Erica*. There is a species of *Deodarea* at Hopetoun House, exceedingly rare, if not quite unique, which we should like much to see so propagated.

MISCELLANEOUS INTELLIGENCE.

ART. I. Foreign Notices.

BELGIUM.

PLANTING in the District of Liège. — The ground to be planted was at least 1200 ft. above the level of the sea, and was perfectly heath-clad. With a kind of mattock, or rather a clumsy adze, having an open cleft in the middle, and each side well sharpened, a labourer was cutting up slices of the sod of a foot and a half long, and ten inches broad. He worked the adze as a carpenter would. These slices he dexterously rolled up with his instrument in a conical shape, and placed them upright, the heath and grass side being innermost. I thought, on looking over his work, that the operation was tedious; but, on returning next day, I found that he had got over more work than I expected he could have done. I proposed to him the paring spade of the Irish and Scotch Highlander, but he said that such an instrument would not cut off a slice sufficiently long, which was essentially necessary, that the heath might rot effectually during the winter. The ground to be planted was thus left bare of all vegetation. In the spring the young oaks are thickly planted by pitting; and when the rolls of heath sod are sufficiently rotten, they are beaten down in autumn, to nourish the plants. I consider this the perfection of heath planting; and the cost of paring off the sod, rolling it up, and setting it up, cannot exceed 20s. an acre. For larch plantations I think it unnecessary, but it is the most likely way to succeed with oaks. After visiting the oak woods of the districts of Liège, of the forests of the Ardennes, of Nassau, and of Juliers and Berg, I am satisfied that the oak tree can adapt itself to more varieties of soil, and site, and climate, than any other tree I could name. (*A Spectator in the Netherlands*, in *Derbyshire Courier*. Sent by J. B., Jan. 1835.)

ITALY.

NAPLES, Jan. 9. — Severe indisposition has prevented my going in person to Caserta to forward your wishes; and some difficulty, or rather delay,

encountered in their fulfilment, has occurred from the persons I applied to. In fact, I do not consider the statement below as entirely satisfactory, or, perhaps, perfectly correct; but I prefer transmitting it to you without farther delay: and, as soon as I am enabled to examine the matter in person, I will write to you again. The following is the list as I received it: the first column of figures indicates the height; the second, the length of the longest branch, from the stem:—

	Height.	Length of branch.
<i>Caméllia japónica</i> -	- 21 palms	- $4\frac{1}{2}$ palms
<i>Magnòlia grandiflora</i> -	- 52	- 5
<i>Eucalyptus robusta</i> -	- 90	- 8
<i>Callistémon lophanthus</i> -	- 52	- $2\frac{3}{4}$
<i>Acàcia heterophylla</i> -	- 50	- $2\frac{3}{4}$
<i>Acàcia Julibrissin</i> -	- 40	- $3\frac{1}{2}$
<i>Melaleuca ericifolia</i> -	- 24	- 2
<i>Melaleuca hypericifolia</i> -	- 20	- $1\frac{1}{2}$
<i>Cinnamòmum Camphora</i> -	- 55	- 9

The measures are given in the standard of this country; that is, in palms, each of which is $10\frac{1}{2}$ in. English. Instead of accurately ascertaining the entire circumference occupied by the branches (which I had pointed out), the length of the largest has been given; which does not furnish, of course, an exact result, but only an approximate notion. They have mentioned no banksias, though I had; so I conclude they have none of any size. It is some time back since I have visited the English garden at Caserta (having been established here many years); and, at that period, the *Caméllia*, and the camphor laurels (of which there are several), appeared to me the most remarkable exotics, as to size, I ever beheld in Europe.

I possess two gardens: one of which, in the immediate vicinity of this capital, I planted myself in the year 1819; another I purchased two years back, which is much more extensive, and laid out in the English fashion. The situation of this last is farther from the sea; and, from its elevation in a mountainous district, exposed to a much cooler temperature, has some very remarkable plants, and answers much better for all the New Holland shrubs and varieties of pines than the other: though the pelargoniums, orange trees, myrtles, &c., require more shelter than they do in Naples; as there are frequent frosts during the whole winter, and the snow sometimes lies for a few days on the ground, though to no considerable depth.

To return to the object of your researches. You will, probably, be pleased to learn that one of the Graeffers is still head gardener. As soon as I learned this, I sent him information that it was for you that I had required the size and particulars of the plants; so that, should you be inclined to write to him, I have no doubt he will readily give you all the desired instructions in a more direct manner. At present, no one can enter the garden without an express permission from the king; which (as I could not go myself) was one of the obstacles I met with. I believe that the *Caméllia japónica* has been placed there more recently than the other trees mentioned in the list: I should think, in the time of the French.

The quickest-growing plants in this soil and climate are, undoubtedly, the *Eucalyptus* family, and the *Acàcia lophantha*. The former reaches, in very few years, to 80 ft. and 90 ft.; when it generally is destroyed by a high wind, which breaks it off, at the lower part of the trunk, a foot or two from the ground.—*R. K. C.*

NORTH AMERICA.

Boston, Dec. 8. 1834.—We have just received the first ten Numbers of your new edition of the *Encyclopædia of Gardening*, and have glanced through them. We very hastily read that part of your work which relates to the history of gardening in North America. We observe a mistake in regard to the extent of “Boston Common:” you say it is 70 acres in extent. It is but

48 $\frac{3}{4}$ acres in one spot; nearly in the centre of which is situated the great "elm," a drawing of which Messrs. Thorburn of New York sent you some time since. [We have never received it; and we have written to Dr. Mease for information about this very elm.] It is a beautiful piece of undulated ground, and has avenues of trees on three sides. From the other side, the view of the country across Charles River is very fine; extending to Cambridge, Brighton, Waterstone, &c. We are extremely sorry you had not more information respecting the cemetery and garden of Mount Auburn, the property of the Massachusetts Horticultural Society. We have sent you the address delivered to the Society respecting it by Mr. Story; because, we think, you will there find a description of it much better than that you have extracted from the *North American Review*. This address abounds with eloquent and beautiful passages, which, we think, you will greatly admire. We intend publishing a magazine similar to yours, about the 1st of January, which we hope to have the pleasure of sending you. We are dealers in seeds and plants in this city; and have enclosed one of our catalogues with the other pamphlets. In our magazine, we shall give detailed accounts, probably with cuts, of some of the fine establishments in the vicinity of Boston. You are not aware to what an extent we are going in horticulture. One very rich gentleman has, this season, built a splendid range of green-houses, stoves, pineries, peacheries, pits, &c., about 350 ft. in length; and has spared no pains or expense to erect them in the first style. He has built a beautiful tower in the Ionic style, which stands in the rear of the range of houses, and is seen just above them from the garden. He has a fountain erected in the centre of the garden, which is supplied from a cistern in this tower. The water is forced up into the cistern by steam power. The whole range of houses is heated by hot water, which in the green-house runs under the walk. The whole is built in the most perfect manner. The expense already has been about 80,000 dollars; and many and great improvements are yet to be made. We shall, if we obtain the consent of the proprietor, give a full account of this place, the success of heating it by hot water, &c. The green-house in the centre has the front lights about 6 ft. high, set with the finest plate glass. — H.

ART. II. Domestic Notices.

ENGLAND.

BARON Karwinsky's Collection of succulent and other rare Mexican Plants has been noticed in X. 323. A few of the rarest of these are shortly expected in London for sale. They are said to be of extraordinary beauty and interest; and the prices will be high. The disposal of them, we believe, will be left to Mr. Charlwood.

The Chimonanthus fragrans is now (Feb. 6.), and has been for the last six weeks, covered with expanded blossoms, in the common shrubbery of the Twickenham Botanic Garden. Mr. Castles, the curator of that garden, not only finds it as hardy as the common syringa, or the lilac, but also that it blooms far more abundantly as a standard or bush, than it does when trained against a wall. The fragrance not only perfumes the whole garden, but all the neighbourhood; and, in the direction of the wind (a gentleman, who called a few days since on Mr. Castles, informs us), it may be smelt half a mile off; as is the case with the *Caprifolium flexuosum*. At certain seasons, when these two shrubs are in flower, a stranger may literally smell his way to the Twickenham Garden.

The Lancashire Botanical and Horticultural Book Society. — A Society has been formed, at Lancaster, for taking in all the best periodical works on botany and gardening; to commence on Jan. 1. 1835. There are to be twenty members, who are to pay 12s. per annum each. This Society is likely to be a very useful one. — *M. Saul.* Sulyard Street, Lancaster, Dec. 16. 1834.

Trees in the Fulham Nursery. — Among the trees in this nursery, the fol-

lowing appear to me particularly deserving of notice. The first is a fine tree of the *Celtis occidentalis*, or American nettle tree. It has a clean stem of 21 ft. from the ground; the circumference of the stem, 10 ft. from the ground, is 5 ft. 6 in.; and, at 5 ft. from the ground, is 5 ft. 8 in. I believe it is not a common tree; although it is of long standing in the country, as the appearance of this tree fully testifies. There is also a fine old tree of *Ailántus glandulosa*: the circumference of the stem, 6 ft. from the ground, is 6 ft. 8 in.; and, at 2 ft. from the ground, 8 ft. 6 in. I mention these trees, as, I believe, they do not generally attain so large a size. — *Wm. Gathell. Fulham Nursery, Jan. 9. 1835.*

Ivy planted at the Base of a Wall, on one Side, led through that Wall towards its Base, and trained over the Face of the opposite Side of the Wall. — This is done in the following case, in the parish of Kensington, Middlesex: — A wall is placed as a boundary to a garden; at the foot of this wall, outside the garden, is a ditch; and, in this ditch, water runs. The quantity of soil left between the ditch and the foot of the wall is but small; and it is kept too moist for plants of ivy to flourish in it. The proprietors of the wall and garden have, however, wished that the face of the wall outside of the garden should be clothed with ivy; and, in accomplishment of this object, have planted and treated plants of ivy in the manner stated above. The result will probably be, in the end, fully satisfactory. The plantation has not been made long; and, already, some of the plants have extended, although all have not thriven alike. — *J. D.*

A Nosegay of Fruits. — At the late grand fête at Wentworth House, there was placed, in the refreshment-room, a *bouquet de fruit*; composed of every variety of grapes, pines, peaches, nectarines, &c., 5 yards in circumference, and valued at 600*l.* — *B. G. Sheffield, Nov. 1. 1834.*

SCOTLAND.

An Arboretum has been begun here, but we have great difficulty in getting any but common trees nearer than Edinburgh or London; which shows that there is little demand for the finer sorts, or they would be to be had at Aberdeen. This is a great drawback to us, and I wish you could only persuade the Aberdeen nurserymen to imitate their southern brethren. — *W. T. Thainston, Jan. 16. 1835.*

By the Return Papers which we have had from Dunrobin, we find that no inconsiderable number of foreign trees and shrubs endure the open air in that northern extremity of the island; and we conclude that a still greater number would thrive at Thainston, which is not more than fifteen or twelve miles north of Aberdeen: we wish some correspondent (Mr. Dymock, for example) would send us a list of the ages and sizes of the largest of all the foreign trees and shrubs within five miles of Aberdeen. — *Cond.*

IRELAND.

Belfast Horticultural Society. — About five years ago a Horticultural Society was formed in this town, by the noblemen and gentlemen, aided by the nurserymen and gardeners of the neighbourhood. Lately some tradesmen who possess small gardens have become members, and it seems that these tradesmen felt degraded, and their *dignity* at stake, by being obliged occasionally to mix with the humble operatives or working gardeners of the neighbourhood. At a late meeting of the Society, these tradesmen proposed and carried a resolution, that operatives should be excluded from holding any office whatever in the Society. They also proposed, but it did not pass, that gardeners should not be allowed to enter the show-room until the ladies and gentlemen had left it (meaning only themselves and their wives, for persons of high rank did not object to mix with us). I admit that we are poor, and ignorant of high life and manners; but would it not be a duty in those would-be gentlemen to lay aside their self-importance for a few hours, two or three times in the year; and try to instruct humble, but, I hope, useful, members of

society, instead of turning them out of their Society, as unworthy of notice. A person who would wish to have a well-cultivated garden should endeavour to have a cultivated gardener also. You will be surprised to hear of such things in Belfast, where the people in general are well-informed and liberal. Yes, and that these would-be gents, who voted for our exclusion, are all radical reformers. So much for radical liberality! Now I come to the most pleasant part of my letter. I have seen Lord and Lady Donegall, Sir Robert and Lady Bateson, Mr. and Mrs. Ball, and other persons of distinction, at our shows, mingling freely with us, and, in the most polite and condescending manner, conversing with the humblest gardener among us, on subjects relative to our profession. — *A Gardener. Belfast, Dec. 29. 1834.*

ART. III. Retrospective Criticism.

HAYWARD'S Inquiry, &c., reviewed, X. 500., is there wrongly stated to cost only 2s. 6d., but on sending to purchase it, I found the price was 7s. 6d., which I think much too dear. — *A Journeyman Gardener. East Acton, Jan. 19. 1835.*

On looking at our copy, we find no price marked on it; and we conclude that we must have been informed, at the time we wrote, that the price was 2s. 6d.; at all events, the paper and print is certainly not worth more. It does not contain more than twice as much as this Magazine; and there are very few cuts. — *Cond.*

What are the Heat and Moisture best adapted for the Production of the various Fruits? — I beg to call the attention of your scientific readers to the query on this subject in X. 80. It is one of great importance to the horticulturist, and one which, I hope, will meet with that serious consideration it so justly merits. — *W. P. A. East Acton, Jan. 19. 1835.*

Mr. Rutger's Designs for Kitchen and Flower Gardens are exceedingly useful, and I should like to see a similar series of designs, founded on scientific principles, of vineries, peach-houses, and other forcing structures, either by Mr. Rutger, or some one equally conversant with the subject. — *Id.*

Rustic-work for Garden Ornaments. (X. 485.) — I have lately been trying several experiments with rustic-work; and, on reading the above article, I thought it might be interesting to your readers to be informed how I prepare wood for forming rustic ornaments. The best wood for this purpose is alder, which is remarkable for being curled and knotty; and, as it is desirable to make it appear as knotty as possible, I take the knots from one piece of wood, and insert them in holes previously prepared in the plain parts of the wood I intend to make use of. Care must be taken that the pieces let in fit the holes exactly; and they may be fastened in with glue or small headless nails. — *M. Saul. Sulyard Street, Lancaster, Dec. 16. 1834.*

A specimen of this prepared wood has been sent us by Mr. Saul, and also a design for an Elizabethan window, in which the mullions, transoms, and labels are of rustic-work; that is, with branches of alders knotted in the manner above described. *Chacun à son goût*; for our part, we can by no means approve of applying wooden rustic-work to permanent architectural structures of brick or stone, such as human dwellings. There is too much of fac-simile imitation in this rustic-work for the dignity of stone or brick architecture; and too little of the expression of cultivated design, for forming the framework of any thing so avowedly artificial and refined as glazed sashes. These are our reasons, but we are willing to hear those of Mr. Saul, or of any other correspondent, in opposition to them. — *Cond.*

The Wourali Poison. (p. 5.) — Mr. Colley, finding that the *Catasètum* contained a viscid matter, concluded that the poison itself would be glutinous; hence his remark that it renders the Wourali poison so glutinous as to

adhere with facility to the barb of their arrows. Now, the act of boiling totally destroys its viscid qualities. — *C. Waterton. Walton Hall, Jan. 7. 1835.*

Solànum betàceum, or the Beet-leaved Nightshade. (p. 105.) — This shrub may prove half-hardy, it is suggested in p. 105. How far this is likely, I will not venture to guess: it is registered in your *Hort. Brit.* as a native of South America; and in Sweet's *Hort. Brit.*, as a native of New Spain; and in both works, as being in Britain a stove shrub. Would it only thrive in open borders, in Britain, through the hotter of the summer months, it would well repay planting out, in the pleasure one might feel in seeing its magnificent leaves. In 1816, and some time before and after, there was (and, perhaps, still is) a living plant of it in the collection of stove plants in the Cambridge Botanic Garden; where it produced leaves of nearly a foot in length, and towards half that in breadth; and, in their amplitude and midrib down the centre, resembling, more or less, those of the beet plant, as implied in the epithet *betàceum*. These gave out, when handled, a strong odour, resembling that supplied by the bruised wood of *Solànum Dulcamàra*; which I have accustomed myself to compare to that produced by rats and mice. Did the plants of *S. betàceum*, when planted out, produce only a copious clothing of such leaves, they would, in themselves, be striking, and impart one additional tropical feature to the British flower-garden. If the plant could be so cultivated in-doors, as, when planted out for a short season of display, to produce not only its leaves during that season, but the fruit also (described, in p. 105., as very beautiful), its out-door attractiveness would be still greater. The difficulty of propagating this plant, stated in p. 105., I should not have supposed; and it is difficult to account for. The species is one of the very freest habit of growth; and one would expect it to be not more difficult to propagate than *Brugmàsia suavèolens*, and to thrive thoroughly and flower under just the same treatment. — *J. D.*

Cultivation of Trees and Shrubs in preference to Florists' Flowers. (Preface to Vol. X. p. iv.) — Horticultural societies, no doubt, have done good; but they have been the means of bringing florists' flowers, and half-hardy low shrubs, rather too much into fashion. These are fine things for amateurs about towns; fine things in flower-gardens at country-seats, where they are allowed to be properly cared for, and where there are gardeners able to care for them (Mr. Hogg would say): his 25s. carnations are fine things for hares to nibble at in winter. Owners of country residences would expend a little money, annually, to much better purpose in buying those hardy foreign trees and shrubs mentioned in your Return Papers, than upon florists' flowers; which are but short-lived beauties at best. But he who plants an arboretum does it not only for himself, but for the next generation. — *William Taylor. Thainston, Jan. 16. 1835.*

ART. IV. *Queries and Answers.*

THERE is not a greater Mistake, in planting Pleasure-Grounds, than in mixing the common or indigenous Shrubs of a Country with foreign or improved Species or Varieties. (p. 59.) — Are the indigenous shrubs ineligible for the pleasure-ground? Are botanical affinities to be disregarded in planting a pleasure-ground. — *J. D. London, Feb. 2. 1835.*

The object in planting a pleasure-ground is, to create a character of art throughout the plantation; and, whenever indigenous shrubs or botanical affinities interfere with this character, they are to be rejected. Botanical affinities will not often interfere; but, in planting trees and shrubs, the commoner sorts of the neighbourhood often may. For example, suppose it were intended to form a pleasure-ground, or even shrubbery, in a district of country where the common oak, elm, ash, birch, poplar, Scotch pine, common thorn, holly, spindle tree, elder, &c., were common in the woods and roadside plantations, not one of these trees and shrubs, according to our principle of the recognition

of art, and more especially of high art, ought to be introduced in the shrubbery; but, according to the same principle, variegated-leaved, double-flowered, or other artificial varieties of all these species might be introduced. In a botanic garden or arboretum, of course, the principle will not apply; because the object there is not to produce a work of elegant art, but one of botanical science. Cases may occur in which it is desirable to imitate a plantation already existing: for example, where two estates join, and both parties are desirous of disguising their boundary. In this case, the trees in the plantations on the margin of the one estate must be imitated in the plantations on the margin of the other, without reference to the trees being either indigenous or foreign. Cases of this kind, however, and other cases that might be mentioned, have nothing to do with planting as an elegant art; or with reference to landscape-gardening as an art of taste. — *Cond.*

The Turkey Oak and the Norway Oak. — Is not the specimen of oak sent herewith, which bears rough-bearded acorn cups, the Turkey oak (*Quercus Cérus*) so highly recommended in *Useful and Ornamental Planting*, p. 130., in the Farmer's Series of the *Library of Useful Knowledge*? I have never heard this kind called by any other name than the Norway oak; and was very near ordering some Turkey oaks at 1s. each, from town; till, on referring to book, I could find no such thing as Norway oak, and began to discover that the so-called Norway must be the Turkey. Is it not so? See the evil of wrong names. — *W. T. Bree. Jan. 3. 1835.* [The specimen sent was of *Q. Cérus*. We have, in X. 336., given Mr. Richardson's high recommendation of this species, and his reasons for it. — *Cond.*]

What is the best Time to sow Acorns? and how they may be best preserved till sown? are questions which admit, perhaps, of considerable difference of opinion. No doubt, nature seems to dictate that the acorns should be committed to the ground as soon as they are perfectly ripe; for they will often begin to *chit*, i. e. sprout, even before they fall from the parent tree. But, then, if sown immediately in autumn, they run great risk of being devoured by birds, mice, or other vermin; while, on the other hand, if kept till towards spring, and in too dry a state, many will perish: and, again, if in a moist one, many more will sprout out to a considerable length, and thus (as is supposed) exhaust their strength by premature vegetation. From an experiment, however, which I made this year, quite accidentally, it should seem that neither the late sowing nor the sprouting of the acorns is at all prejudicial to the future growth of the young plants. Of the acorn crop of 1833, I had occasion to sow a considerable quantity: several beds were sown in the end of autumn; others in the early part of winter; and some acorns were reserved, to be dibbled in among newly planted quickset fences. After all were disposed of that I had an immediate occasion for, a large garden-potful still remained: instead of throwing them away, I had them sown in rows in a bed. I regret that I did not note the exact time; but think I am safe in saying it was not before the latter end of February, or, perhaps, the beginning of March: and the acorns, I am sure, had sprouted out, many of them, to the length of several inches; and the sprouts were so entangled one with another, that it was difficult to separate them without injury. These late-sown sprouted acorns, contrary to my expectation, came up well, and have made the finest seed-bed of any sown on the premises. Many of the young plants now measure 16 in. and 17 in. above the ground, and some few 18 in. In the autumn or earlier sown beds, with the exception of a single plant about 17 in. high, very few have attained to 14 in. The late-sown ones, in short, are decidedly the tallest and finest plants. The acorns in question, I should state, had been kept in a common garden-pot placed in a rather damp situation. Does the experience of other planters correspond with the above result? — *W. T. Bree. Allesley Rectory, Dec. 4. 1834.*

Is the Margil Apple so named from the resemblance of its pulp to marrow, that being the meaning of the word marg, margil, or marle, according to Whitaker? — *Juvenis. London, Jan. 15. 1835.*

A Double-Flowered Crocus. — Mr. Bree enquires (X. 576.) if there is such a thing as a double-flowered crocus. Miller quotes Clusius as an authority for the crocus, vernus latifolius, flavo-vario flore duplici; the double cloth of gold crocus. Mr. Sabine (*Hort. Trans.*, vii. 437.) says: — “In the seventh edition of the *Dictionary*, he (Miller) considers this as arising from some arrangement of the petals of the single flower; but I am satisfied that the double-flowering bulb has existed. It is one of the kinds mentioned by Bauhin in his *Pinax*, p. 66.” — *Oileus abscissus*.

White and Green Asparagus in Paris. — Mr. T. Rutger enquires (X. 294.) whether what we call, in Paris, white asparagus is a distinct variety; or if its whiteness is the effect only of the mode of growing it. The latter interpretation is the right one: white and green asparagus (in the case under consideration) are not names for varieties, but only market expressions designed for distinguishing the products of two distinct modes of cultivation; so that the same variety or stock shall be white or green asparagus, according as it has been forced in the natural ground or on hot-beds.

A second question is, Which is the best for the table? This can hardly be answered directly. Were the price a sure criterion for the quality, white asparagus should be greatly superior: at the end of December, its highest price is generally from 8 francs to 12 francs a bundle, and its average price 10 francs, or 8s.; while the green is usually sold for 2 francs 75 cents, or 2s. 3d. The bundle of this latter being, however, but half the size of the other, the real difference is as $5\frac{1}{2}$ to 10. Not unfrequently, it is still greater in favour of the white sort.

Now, to explain this, it must be considered that white asparagus is the produce of settled plants, vegetating in a richly manured soil, and treated so as to bring fine large shoots; while the green asparagus is yielded either by old roots from decaying beds, or by three to four years' seedlings of a common sort grown in the fields partly for that purpose. Such plants, rather set standing than planted on hot dung, very close together, and then immediately forced to vegetate, can produce but indifferent shoots; notwithstanding they have the benefit of as much light and air as can be given them. In consequence of their deficiency in size, they seldom appear on the table in their natural state; but are chiefly used, cut into small pieces, for being dressed as *asperges en petite pois* [asparagus to resemble green peas]; or in some similar manner. White asparagus, on the contrary, boiled and served by itself, affords an excellent dish on rich tables.

These explanations, though they do not precisely decide the question of superiority in flavour, will yet give an idea of the difference between the two kinds, both as saleable and as culinary articles. The whole tends to corroborate Mr. Rutger's opinion, that the natural ground forcing should be encouraged among the London gardeners. Its effect being to procure a larger and more beautiful sample than is obtained from the other process, it seems to be very well adapted to the market of such a rich city as your metropolis. Some modifications might certainly take place, especially with a view to obtain green shoots; respecting, however, the enlarging of the trenches between the beds to 3 ft. instead of 2 ft., our gardeners would not adopt it, the ground being so valuable with them (and this, certainly, must also be the case about London), that what they can perform on 6 ft. will never be allowed to occupy 7 ft.

A last question remains, which is, Whether, in the planting of green asparagus, the crowns are covered or not? The answer to this is, No: only the roots are filled in with mould, the eye-bud remaining uncovered. — *Vilmorin. Paris, Jan. 1835.*

Artichokes. — As the leaves and shoots of gourds are edible, either as spinach or greens, may not the leaves of artichokes, especially the young ones, be used in the same manner, without blanching them, as is now done? — *Samuel Dring. New Forest, Hampshire.*

ART. V. Covent Garden Market.

	From	To		From	To
	£ s. d.	£ s. d.		£ s. d.	£ s. d.
<i>The Cabbage Tribe.</i>					
Cabbage, Red, per dozen	0 1 0	0 1 6	Endive, per score	0 2 0	0 2 6
Plants or Coleworts, per doz.	0 1 6	0 2 6	Celery, new, per bundle (12 to 15)	0 0 6	0 1 6
Savoys, per dozen	0 0 6	0 1 0	Small Salads, per punnet	0 0 2	0 0 3
Brussels Sprouts, per half sieve	0 1 6	0 2 0	Watercress, per dozen small bunches	0 0 3	0 0 4
German Greens, or Kale, per dozen	0 0 3	0 0 6	<i>Pot and Sweet Herbs.</i>		
Broccoli, per bunch :			Parsley, per half sieve	0 2 0	0 2 6
White	0 1 6	0 2 6	Tarragon, dry, per doz. bun.	0 2 0	0 0 0
Green	0 0 6	0 1 0	Fennel, green, per dozen bun.	0 0 0	0 0 0
Purple	0 0 9	0 1 3	Thyme, green, per dozen bun.	0 2 6	0 0 0
<i>Legumes.</i>					
Kidneybeans, forced, per hund.	0 2 0	0 3 0	Sage, green, per dozen bunches	0 2 0	0 0 0
<i>Tubers and Roots.</i>					
Potatoes	2 10 0	3 0 0	Mint, green, per dozen bunches	0 6 0	0 0 0
per ton	0 2 6	0 3 6	Peppermint, dry, per doz. bun.	0 1 0	0 0 0
per cwt.	0 1 6	0 1 9	Marjoram, dry, per dozen bun.	0 1 0	0 0 0
per bushel	0 2 0	0 0 0	Savory, dry, per dozen bunches	0 1 0	0 0 0
Kidney	0 1 6	0 2 0	Basil, dry, per dozen bunches	0 1 6	0 0 0
Scotch	0 2 6	0 0 0	Rosemary, green, per doz. bun.	0 5 0	0 0 0
New, per pound	0 0 9	0 1 0	Lavender, dry, per dozen bun.	0 3 0	0 0 0
Jerusalem Artichokes, per half sieve	0 0 9	0 1 0	<i>Stalks and Fruits for Tarts, Pickling, &c.</i>		
Turnips, White, per bunch	0 0 2	0 0 0	Rhubarb Stalks, per bundle	0 1 3	0 2 0
Carrots, per bunch	0 0 3	0 0 4	<i>Edible Fungi and Fuci.</i>		
Parsneps, per dozen	0 0 6	0 1 3	Mushrooms, per pottle	0 0 6	0 0 9
Red Beet, per dozen	0 0 9	0 1 6	Morels, dry, per pound	0 16 0	0 0 0
Skirret, per bunch	0 1 6	0 0 0	Truffles, dry, English, p. pound	0 12 0	0 0 0
Scorzonera, per bundle	0 1 6	0 0 0	<i>Fruits.</i>		
Salsify, per bunch	0 1 6	0 0 0	Apples, Dessert, per bushel :		
Horseradish, per bundle	0 1 6	0 4 0	Golden Pippins	0 12 0	1 0 0
Radishes :			Nonpareils	0 7 0	1 0 0
Red, per dozen hands (24 to 30 each)	0 1 6	0 3 0	Pearmains	0 4 0	0 5 0
<i>The Spinach Tribe.</i>					
Spinach, per sieve	0 2 0	0 2 6	Reinette Grise	0 8 0	0 10 0
Sorrel, per half sieve	0 2 0	0 3 0	Baking, per bushel	0 3 6	0 7 6
<i>The Onion Tribe.</i>					
Onions, Old, per bushel	0 2 0	0 2 6	Pears, dessert, per half sieve :		
For pickling, per half sieve	0 3 6	0 5 0	Evans's Seedling	2 0 0	0 0 0
Leeks, per dozen bunches	0 0 9	0 1 3	Beurré de Pentecôte, per dozen	0 12 0	0 0 0
Garlic, per pound	0 0 6	0 0 8	Baking, per dozen	0 6 0	0 0 0
Shallots, per pound	0 0 9	0 0 10	Cranberries, per gallon	0 3 0	0 4 0
<i>Asparaginous Plants, Salads, &c.</i>					
Asparagus, per hundred :			Pine-apples, per pound	0 6 0	0 10 0
Large	0 6 0	0 7 0	Grapes, Hot-house, per pound	0 6 0	0 10 0
Middling	0 3 0	0 5 0	Cucumbers, frame, per brace	0 10 0	1 0 0
Small	0 1 6	0 2 6	Oranges { per dozen	0 0 6	0 2 0
Lettuce, per score :			per hundred	0 3 0	0 14 0
Cos	0 1 6	0 2 0	Bitter Oranges, per hundred	0 6 0	0 16 0
Cabbage	0 0 4	0 0 6	Lemons { per dozen	0 0 9	0 2 0
			per hundred	0 3 0	0 12 0
			Sweet Almonds, per pound	0 2 0	0 2 6
			Brazil Nuts, per bushel	0 14 0	0 16 0
			Spanish Nuts, per peck	0 5 0	0 0 0
			Barcelona Nuts, per peck	0 6 0	0 0 0

Observations. — The weather has continued, since my last report, with the exception of a day or so of frost, moderate and open for the season. The market has been freely supplied with all kinds of vegetables usually to be found at this season. Broccolis have become more generally plentiful, and of good quality, at a very moderate price: some fine new varieties have been produced; one bunch, containing twelve heads, weighed 48 lbs., free from the packing. Coleworts are at present in good supply; which, with savoys, turnip tops, Brussels sprouts (now generally cultivated), and other greens in abundance, causes a depression in the general prices. Asparagus (forced) is liberally furnished, as well as sea-kale. The prices of both these articles of luxury are extremely moderate; so that, instead of being, as heretofore, confined to the service of the wealthy, they may be now enjoyed, without extravagance, by the merchant and tradesman. This might be supposed to lead to a more general demand; but as they are no longer exclusively enjoyed by the rich, like other articles of general supply, they are less sought after. Potatoes are in abundant supply; prices very low. It should be generally known that, since the introduction of the new regulations as to weights and measures, they

are now sold at the ordinary weight (say, 120 lb. to the hundred weight, 60 lb. to the bushel, and so on); the difference between 112 lb. and 120 lb. being allowed for the dust. Of fruit, more especially apples, we still have a good supply; prices are certainly much higher than before Christmas; but the stock on hand is yet pretty considerable: if the present prices are maintained, it will enable the distant growers to risk the extra-expense of freight or carriage to convey them to the London markets. Pears are entirely nominal; but few are to be seen, and those of but indifferent size and quality. Oranges are now in good supply, at very moderate prices, and in excellent condition. Much complaint is made of their being generally small this season: so that the dealers have great difficulty in selecting them to suit their best customers, which materially enhances their value. — *G. C. Feb. 20. 1835.*

ART. VI. *Obituary.*

DIED, on the night of January 20. 1835, *Robert Sweet*, F.L.S., the distinguished practical botanist, and botanical cultivator and author, aged 52 years.

He was born in 1783, at Cockington, near Torquay, Devonshire, of William and Mary Sweet. In his sixteenth year he was placed under his half-brother, James Sweet, then gardener to Richard Bright, Esq., of Ham Green, near Bristol (and afterwards the founder of the extensive nursery at the latter place), with whom he remained for nine years. He had, subsequently, charge of the collection of plants under the care of Mr. Stewart, at Woodlands, the residence of John Julius Angerstein, Esq. On Feb. 14. 1812, he was elected a Fellow of the Linnæan Society. In 1810 he entered as a partner into the Stockwell Nursery, which soon became famed for a collection of rare exotic plants; and, on the dissolution of that concern, in 1815, he became foreman to Messrs. Whitley, Brames, and Milne, nurserymen, Fulham; and remained in this situation until 1819, when he entered into the service of Messrs. Colvill, with whom he continued until 1826. Previously to this, he had become the author of some works, enumerated in the catalogue below; and the remainder will show that, from 1826 to June 1831, he had occupied himself almost wholly in producing botanical works. Still his passion for plant culture never ceased. In the garden attached to his residence at Parson's Green, Fulham, he cultivated a limited collection of interesting plants; and, he having removed, in 1830, to Chelsea, to a residence with a larger garden attached to it, we find him notifying, at the end of his *Hortus Britannicus*, his intention to "cultivate some handsome, rare, and choice plants for sale," at the wish of many of his friends, who had found "them at present so difficult to obtain."

In June, 1831, he was seized with brain fever, from which he partially recovered; but, having entered again too ardently into his favourite pursuit, he had a return of the complaint, which produced an aberration of mind, which continued till death.

The Dates and Titles of his Literary Works.

In 1818, *Hortus Suburbanus Londinensis*, 1 vol. 8vo.

In 1820, *Geraniaceæ*, continued in numbers until 1826; 5 vols.

In 1822, *The British Flower-Garden*, First Series, continued in numbers until three volumes were formed, in 1826.

In 1825, or previously, the *Botanical Cultivator*. There have been five editions of this work: the fifth one, revised, was advertised in the end of 1830, and was published in 1831, under the title of "*Hothouse and Greenhouse Manual, or Botanical Cultivator.*"

In July, 1825, *Cistineæ*, continued in numbers until completed, in January, 1830.

In 1826, *The British Warblers*.

In 1826 Part I.; in 1827, Part II., of *Hortus Britannicus*.

In 1827, *The Florist's Guide, or Cultivator's Directory*; continued in monthly numbers until 1831.

In 1827, *Flora Australasica*, continued in monthly numbers until 1828.

In June, 1829, *The British Flower-Garden*, Series the Second; continued in monthly numbers, by its author, until June, 1831; and subsequently, and now, by David Don, Esq.

In 1830, *Hortus Britannicus*, edition the second.

In May, 1831, the first number of a work entitled "*The Botany of Great Britain*;" the descriptions by Mr. Sweet, the engravings by H. Weddell. See *Gard. Mag.*, vii. 345.

These works supply a characteristic memorial of their author, and one which will be lasting. The work on the *Geraniaceæ*, and "*quelques autres ouvrages précieux pour la botanique des jardins*," obtained from M. de Candolle, in 1825, the denomination of the genus *Sweetia*, in honour of Mr. Sweet. This genus is founded on the *Galëga longifolia* and *filiformis* of Jacquin. This honour was very grateful to the feelings of Mr. Sweet: but he had, indeed, much merited it. Our deceased friend was a man of modest and retired manners, but yet of an enthusiastic and communicative disposition. We have thought that, in the two last points of view, his *British Warblers* is the one of his works which best images him. Some sprightly passages in that work present him, as it has been our happiness to see and hear him, imparting cheerfully and cordially the information he possessed, for the entertainment and the good of others. In the *Gardener's Magazine*, there are communications from him in i. 31., iii. 297., iv. 182., v. 106. 332., vi. 613.: and in the *Magazine of Natural History*, in ii. 88. 101. 113., iii. 434. 448. 461. Mr. Sweet has left a widow without family. — *D. D.* and *J. D.*

Died, at Fulham, on the 28th of January last, in the 81st year of his age, *Reginald Whitley*, senior partner of the late firm of Whitley, Brames, and Milne, nursery and seedsmen, of Fulham. He was the second son of the Rev. Edward Whitley, formerly rector of Sutton Bonnington, in the county of Nottingham, and afterwards vicar of Merriott, in the county of Somerset. His education was partly received at the grammar school of Crewkerne; and he was a short time subsequently under the tuition of the master of Bridgewater school, and from under whose care he was removed on account of ill health, supposed to be induced from a too great degree of confinement, and that want of constant exercise and enjoyment of fresh air that seemed so essentially necessary to his constitution. At an early period he discovered a decided predilection for botanical pursuits; and though he might, as was then wished by many of his friends, have gone into the navy under the most favourable auspices, yet he was not interfered with in indulging his partiality for horticultural avocations; and he accordingly engaged himself in cultivating as a nursery a portion of ground at Merriott, forming part of the family property there. In the year 1788, wishing to enlarge the sphere of his operations, and extend his acquaintance with the objects of his study, he visited London, and soon afterwards he became a partner with Mr. Thoburn in a nursery at Old Brompton. He shortly after dying, Mr. Whitley intermarried with the widow of his late colleague. He has left no children. In the year 1810 he removed from Old Brompton to Fulham, and occupied the nursery grounds there, before under the superintendence of Mr. Burchell. The business was carried on twenty-three years under the firm of Whitley, Brames, and Milne. On account of the death of one of his partners, and the relinquishment, from ill health, of Mr. Milne the other partner, Mr. Whitley, at his advanced period of life, and frequent indisposition from gout, found it expedient to engage with some person to assist him in conducting the more active part of the business. He consequently entered into an arrangement with Mr. Osborn, who became his partner in 1833, and on whom the affairs of the nursery at Fulham have, since his death, devolved in conjunction with the executors of the deceased. — *W. O.*

THE
GARDENER'S MAGAZINE,
APRIL, 1835.

ORIGINAL COMMUNICATIONS.

ART. I. *Notes on Gardens and Country Seats, visited, from July 27. to September 16., during a Tour through Part of Middlesex, Berkshire, Buckinghamshire, Oxfordshire, Wiltshire, Dorsetshire, Hampshire, Sussex, and Kent.* By the CONDUCTOR.

(Continued from p. 63.)

AUG. 24. — *Captain Rainier's Villa and Garden*, about a mile from Southampton, are well worth visiting, as a specimen of how much may be got into little compass. In front of the house there is a small lawn, tastefully varied by groups of flowers and shrubs, with a fountain and some other architectural ornaments. Among the finer plants are camellias and myrtles as standards, the New Zealand hemp, and a species of bamboo, and also the common *Arundo Donax*, growing luxuriantly. The two latter plants are particularly interesting, from their Oriental appearance; and, being placed on the margin of ponds, in this mild climate, they produce an astonishing effect. There is a green-house, containing the celebrated banyan tree; on the rooting of which Captain Rainier sent a paper to the Horticultural Society. (See I. 67.) An adjoining hot-house contains a magnificent banana plant; a large Cattley's guava, covered with fruit; and an *Anona Cherimolia*, of large size, which has not yet fruited. The kitchen-garden is well stocked with the very best sorts of fruit; among which the nectarine plum, the pigeon's-heart plum, and a new French plum which we tasted, were excellent. There are two hot-houses for pines, grapes, and stove plants. On the whole, there is an immense number of excellent things crowded together in little space; which are as well managed as, under these circumstances, they can be, by the gardener, Mr. Dawson. A detached building contains a museum of Egyptian antiquities, highly spoken of; which, owing to Captain Rainier's absence, we did not see.

North Stoneham Park, J. Fleming, Esq. — This is a large and ancient park, the Flemings having had a residence here in the time of Elizabeth. The fine avenue of sweet chestnuts which led to the old house still remains, but the house is removed. A new house has been lately built, which we went over; and many alterations have been made in the grounds: but the whole, though it contains many fine features by nature, appears to a stranger sadly bungled. Perhaps it may seem uncharitable to condemn a place before it is finished; and, therefore, we shall only allude to one or two points, upon which, we think, there can be no difference of opinion. The approach from the high London road to Southampton shows a distant glimpse of a small part of the house immediately on passing the lodge; whereas, according to every reasonable principle, it ought either to show an advantageous view, or none at all, in order that the first impression received of the house may be favourable. The road is so exceedingly steep, that, in many parts of it, a carriage could not stand still, either in ascending or descending, without a stone being put under the wheel; and this, we think, is a test for trying when a road is too steep. Near the house, the road is so conducted as to show three fourths of the pleasure-ground on the lawn front; which, to make the most of a place, ought to be first seen from the drawingroom windows. Besides, the purity of the expression of the entrance front ought not to be interfered with by the expression of the lawn scenery. The water consists of a number of pools, on different levels, one being placed below another down the slope of the ground; whereas, had the water been carried across the declivity, one grand lake might have been formed all on the same level; and the effect from the lawn front of the house would have been magnificent. When we mention that the elevation of the house exhibits half columns and sunk panels, after the manner of cabinetwork, it will readily be conceived that we cannot approve of it. It is one of the architectural monstrosities of the present day, that columns are introduced in cabinetwork; and panels with raised and sunk mouldings in masonry. There is one point of gardening about this place which is highly commendable; a number of scions of different species of thorn were obtained from the London Horticultural Society, and from nurseries; and, being grafted half standard high, they were afterwards transplanted to the pleasure-ground. Every enrichment of this kind, to pleasure-ground and park scenery, is a real benefit to the country; by its immediate influence, and by its example. Some trelliswork, in front of a magnolia wall, looks like an attempt to imitate the trelliswork in front of the kitchen-garden at the Grange, without understanding the difference. We were sorry that the gardener, Mr. Leslie (who, we were informed by Mr. Rogers, is very intelligent and persevering), was from home.

Paulton's Park, Sloane Stanley, Esq. — Aug. 25. This place is chiefly remarkable for some fine old timber, chiefly oak; but partly, also, beech, elm, and silver firs and Scotch pines. Many very large silver firs were cut down during the late war, some of which sold as high as 80*l.* each. A few still remain, generally standing three together, in a triangle, at about 7 ft. or 8 ft. apart, centre from centre: they are now from 2½ ft. to 3 ft. in diameter, at 1 ft. from the ground, and about 100 ft. high. They are still growing with considerable vigour, as are most of the other trees. There is a river here, formed by Brown; and at the head is a cast-iron sluice, of a new construction, by Bramah, calculated to prevent any waste of water. Wherever water is scarce, a sluice of this kind ought to be adopted. The kitchen-garden, under the management of Mr. White, we found in as good order as any which we have seen since we left London; but we cannot say much in favour of any other part of the grounds. The house appeared to us put down in a place without any “mark or likelihood;” and the road approaches it so as to show every part of the lawn before setting down at the entrance front. The house, with all its accompaniments, is, indeed, beneath criticism.

In passing from this place to Lyndhurst, we saw some of the experimental plantations of the Commissioners of Woods and Forests. It appears that the present plan is to cover the ground with rows of Scotch pines; and, after these are 5 ft. or 6 ft. in height, and their branches have nearly met, to introduce rows of oaks, 3 ft. high, between them. These oaks merely exist the first year; but, the second, they produce shoots from 3 ft. to 6 ft. in length, and very soon overtop the pines. The branches of the pines are then foreshortened, in Mr. Billington's manner, and in that of Mr. Blaikie. This is found, Mr. Page informs us, to be the most rapid mode of raising oak timber hitherto tried in this forest; and, as he has had a great deal to do with the planting and management of these enclosures for many years past, he has promised us some important information on the subject, which we shall have great pleasure in laying before our readers.

(To be continued.)

ART. II. *A Working Plan for laying out and planting a Suburban Flower-Garden, containing about a Quarter of an Acre, and situated within Two Miles of St. Paul's, London.* By the CONDUCTOR.

OUR object in giving this design is, to show in what manner some variety of form may be given to flower beds, in a case where scarcely any circumstance is propitious; and also to show that, in planting these beds, a considerable collection of

trees and shrubs may be employed, so as greatly to enhance the beauty and interest of the scenery.

The situation is flat, though not without some prospect; the walls and walks, the house, and all the buildings, were fixed before our advice was asked, and are to be considered as unalterable; some fruit trees had been planted, which were not to be removed; and also some asparagus beds, sea-kale beds, and gooseberry bushes. All that was left for the artist to do, therefore, was to arrange the beds on the plot of lawn or turf which formed the principal part of the area of the garden; and to indicate the kinds of trees and shrubs to be planted in these beds and on the side borders. The sorts of flowers might also have been indicated; but these were left to the taste of the ladies of the family. We shall, however, give a list in our next Number, with directions for choosing from it.

Before giving a list of the trees and shrubs recommended to be planted, with the precise situation for each plant, we shall shortly describe the plan of the garden. (*fig. 19.*)

- a*, The door of the house, which opens on a landing covered by a trellised porch; from which a flight of seven steps descends to the garden walk. *b*, Privy. *c*, Summer-house.
- d*, Pit for cucumbers, heated by dung from the stable; thrown into a vault, through a door at one end.
- e*, Raised cover to a well. *f*, Pump.
- g*, Door to the stable.
- h*, Situation of the dining-room window, being the only window of a sitting-room which looks into the garden; and with reference to the view from which all the trees are planted.
- i*, Border of shrubs and flowers; the fence on this side being wooden pales about 5 ft. high; the aspect south by east.
- k*, Border for rhubarb, sea-kale, chives, parsley, and other annual and perennial kitchen herbs; the fence here is a brick wall 5 ft. high. *l*, Asparagus beds.
- m*, Two rows of gooseberries, with strawberries between. The margin of the walks is, on one side, a continuation of the lawn, 1 ft. broad; and, on the other, box.
- n* to *o*, Part of the wall, on which currants may be trained.
- p*, Border of shrubs and flowers, with some trees, facing the north; the wall brick, and about 5 ft. high, covered with fruit trees of different kinds; but which, from the aspect, are of little use as such. Beyond the fences, on the right and left, are similar gardens; and at the extreme end there is an open grass field.
- q*, Dark circles, indicating the fruit trees which are already planted, and are not to be removed.
- r*, Open circles, indicating the situation of trees to be planted.
- s*, Marks thus *, indicating the situation of evergreen shrubs to

be planted. The dots thus · indicate situations for herbaceous plants, annual or perennial.

t, Marks thus ×, indicating the situation of deciduous shrubs to be planted.

u to *v*, Twelve posts in the fence of pales, against each of which a China rose is to be planted, and trained on each side; and also allowed to overtop the wall, so as to break its formal outline.

w, Situation where a vase on a proper pedestal, a statue, or other architectural object, might be placed; taking care to connect it architecturally with the walk.

x, Situation where a small circular basin and fountain might be introduced.

y, Situations where chairs may be placed.

The different tools required for the garden, including the wheelbarrow and roller, are kept in a division of the stable; the flower-pots, &c., under the summer-house; and the mould and compost heaps near the east end of the pit.

In the disposition of the trees, the object is, to preserve an irregular-sided vista along the centre of the lawn; to break the formality of the straight lines of the walks and fences on each side of it; to conceal the termination of the lawn, and hide the asparagus beds; and to vary and partially conceal the scenery of the neighbouring side gardens and of the country beyond.

The principle of guidance in the selection and disposition of the shrubs is, partly to cooperate with the above object; but principally to produce an agreeable variety of flowers and foliage throughout the whole space, and during every month in the year. For this purpose, certain evergreens (such as the *laurustinus*), and certain flowering shrubs (such as the China rose), are distributed throughout; the same variety of the species not being repeated, but different varieties. There are also shrubs for flowering at every season of the year: such as the *Chimonanthus* and *Cydonia japonica* for autumn and winter; the *mezereon* for early spring; the common *azalea* and *rhododendron* for the beginning of summer; the *clethra* for August; and the *arbutus* and *wych hazel* for the latter part of the season. The whole of the trees and shrubs are of kinds which do not require peat earth, and may be purchased at moderate prices.

The Trees are almost all of the low-growing and flowering kinds; under 30 ft. in height; and purchasable, on an average, for cash, at 1s. 2d. each. Their names are as follow. The prices were kindly put to them by a respectable London nurseryman.

1. *Pyrus spectabilis*, the showy-flowered Chinese crab tree, 1s.
2. *Quercus Ilex*, the evergreen oak, 1s. 6d.
3. *Thuja occidentalis*, the American arbor vitæ, 9d.
4. *Laurus nobilis*, the sweet bay, 1s. 6d.
5. *Juniperus virginiana*, the red cedar, 1s.

6. *Cytisus Labúrnum*, the common laburnum, 1s.
7. *Pýrus aucupària*, the mountain ash, 1d.
8. *Pàvia rùbra*, the red-flowered small horsechestnut, 1s. 6d.
9. *Pýrus pinnatífida*, the cut-leaved sorb, 1s. 6d.
10. *Cratægus odoratíssima*, the sweetest-scented hawthorn, 9d.
11. *Cratægus Arònia*, the aronia (yellow-fruited) hawthorn, 9d.
12. *Cratægus Crús-gállì*, the cockspur hawthorn, 9d.
13. *Cratægus tanacetifòlia*, the tansy-leaved hawthorn, 9d.
14. *Cratægus cordàta*, the heart-leaved hawthorn, 9d.
15. *Bérberis aristàta*, the awned-leaved berberry, 2s. 6d.
16. *Cratægus Crús-gállì* var. *salicifòlia*, the willow-leaved cockspur hawthorn, 9d.
17. *Cratægus coccínea*, the scarlet-fruited hawthorn, 9d.
18. *Cratægus Azaròlus*, the azarole hawthorn, 9d.
19. *Cratægus nìgra*, the black-fruited hawthorn, 9d.
20. *Cratægus Oxyacántha* var. *flàva*, the yellow-fruited hawthorn, 1s.
21. *Gymnócladus canadénsis*, the Kentucky coffee tree, 1s.
22. *Piptánthus nepalénsis*, the Nepal piptanthus, 2s. 6d.
23. *Kölreutèria paniculàta*, the paniced-flowering kæltreuteria, 1s. 6d.
24. *Liriodéndron Tulipífera*, the tulip tree, 6d.
25. *Gledítschia triacánthos*, the three-thorned honey locust, 6d.
26. *Ailántus glandulòsa*, the ailanto, 6d.
27. *Cércis Siliquástrum*, the Judas tree, 6d.
28. *Cérasus virginiana*, the Virginian bird-cherry, 1s.
29. *Cýtisus alpinus*, the Scotch laburnum, 1s.
30. *Robínia viscòsa*, the glutinous locust, 1s.
31. *Cratægus Oxyacántha*, the scarlet-flowered hawthorn, 9d.
32. *Cratægus Oxyacántha* flore plèno, the double-flowered hawthorn, 9d.
33. *Magnòlia conspícua*, the Yulan magnolia, 3s. 6d.
34. *Cýtisus Labúrnum incisum*, the cut-leaved laburnum, 1s. 6d.
35. *Robínia hispida*, the rose acacia, 1s.
36. *Ptélea trifoliàta*, the three-leaved shrubby trefoil, 9d.
37. *Cérasus Mahàleb*, the perfumed cherry, 1s.
38. *Ameláncnier Botryàpium*, the snowy-flowered amelanchier, 1s.
39. *Cérasus Pàdus*, the bird-cherry, 6d.
40. *Cérasus semperflòrens*, the All Saints' cherry, 1s. 6d.
41. *Bétula álba pèndula*, the weeping birch, 3d.
42. *Pýrus americana*, the American mountain ash, 1s.
43. *Cérasus nìgra*, the black-barked cherry, 1s.
44. *Cotoneáster frígida*, the frigid cotoneaster, 1s.
45. *Pýrus bollwylleriàna*, the Bollwyller pear, 2s. 6d.
46. *Sophòra japònica*, the Japan sophora, 6d.
47. *Diospýros virginiana*, the Virginian lote tree, 6d.
48. *Cérasus lusitànica*, the Portugal laurel, 6d.
49. *Negúndo fraxinifòlium*, the ash-leaved box elder, 1s.

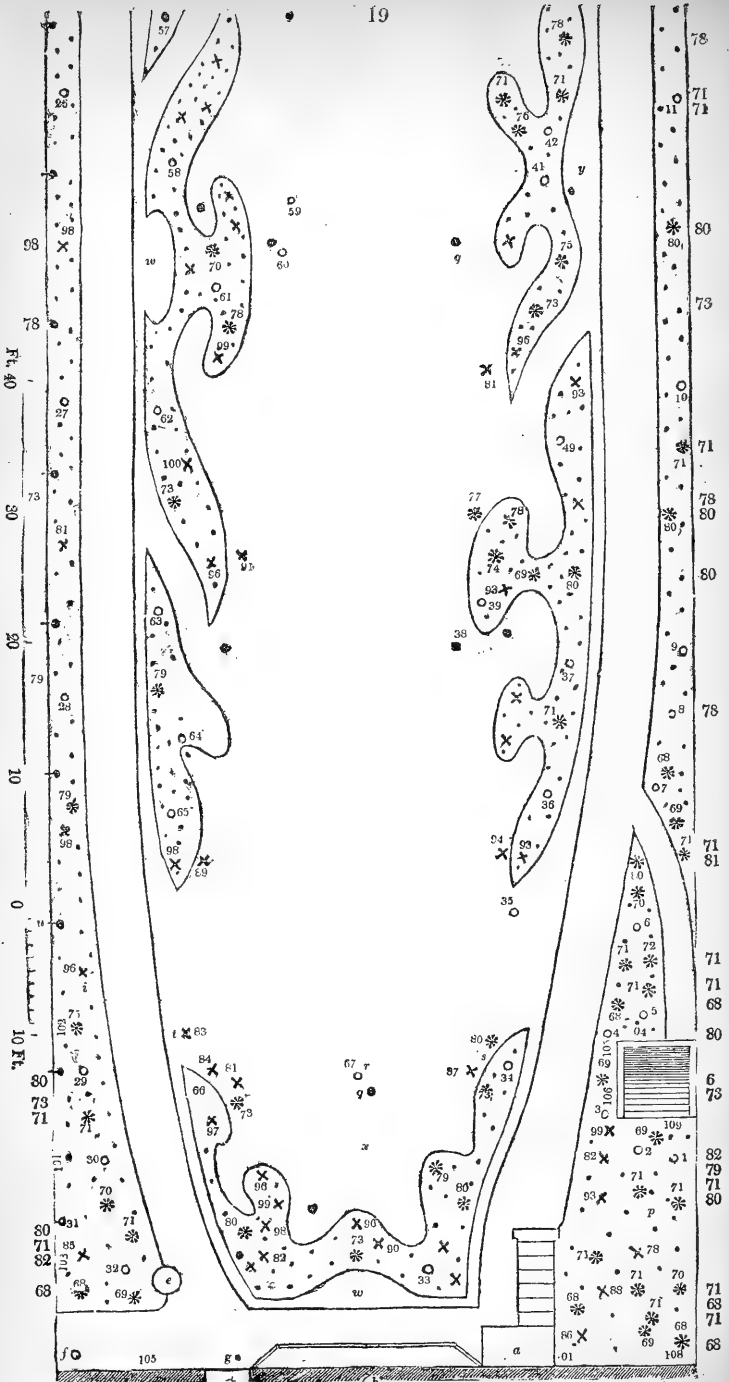
50. *Acer rubrum*, the red maple, 1s.
51. *Taxodium distichum*, the deciduous cypress, 1s.
52. *Æsculus carnea*, the carnation-flowered horsechestnut, 1s. 6d.
53. *Ilex Aquifolium* var., the common holly, with smooth-edged leaves, 1s. 6d.
54. *Salisbùria adiantifolia*, the maidenhair tree, 2s. 6d.
55. *Gleditschia horrida*, the horrid-spined honey locust, 2s. 6d.
56. *Aristotèlia Macqui*, the Macqui tree, 2s. 6d.
57. *Prunus domestica myrobálana*, the Myrobalan plum, 2s.
58. *Halèsia tetráptera*, the snowdrop tree, 1s.
59. *Catalpa syringæfolia*, the catalpa, 6d.
60. *Euónymus latifolius*, the broad-leaved spindle tree, 1s. 6d.
61. *Ilex opàca*, the opaque-leaved holly, 1s. 6d.
62. *Virgília lutea*, the yellow-flowered virgilia, 2s. 6d.
63. *Negúndo fraxinifolium crispum*, the curled-leaved box elder, 1s.
64. *Magnòlia acuminàta*, the pointed-leaved magnolia, 2s. 6d.
65. *Liquidámbar styracífua*, the maple-leaved liquidambar, 1s.
66. *Amýgdalus communis*, the common almond, 1s.

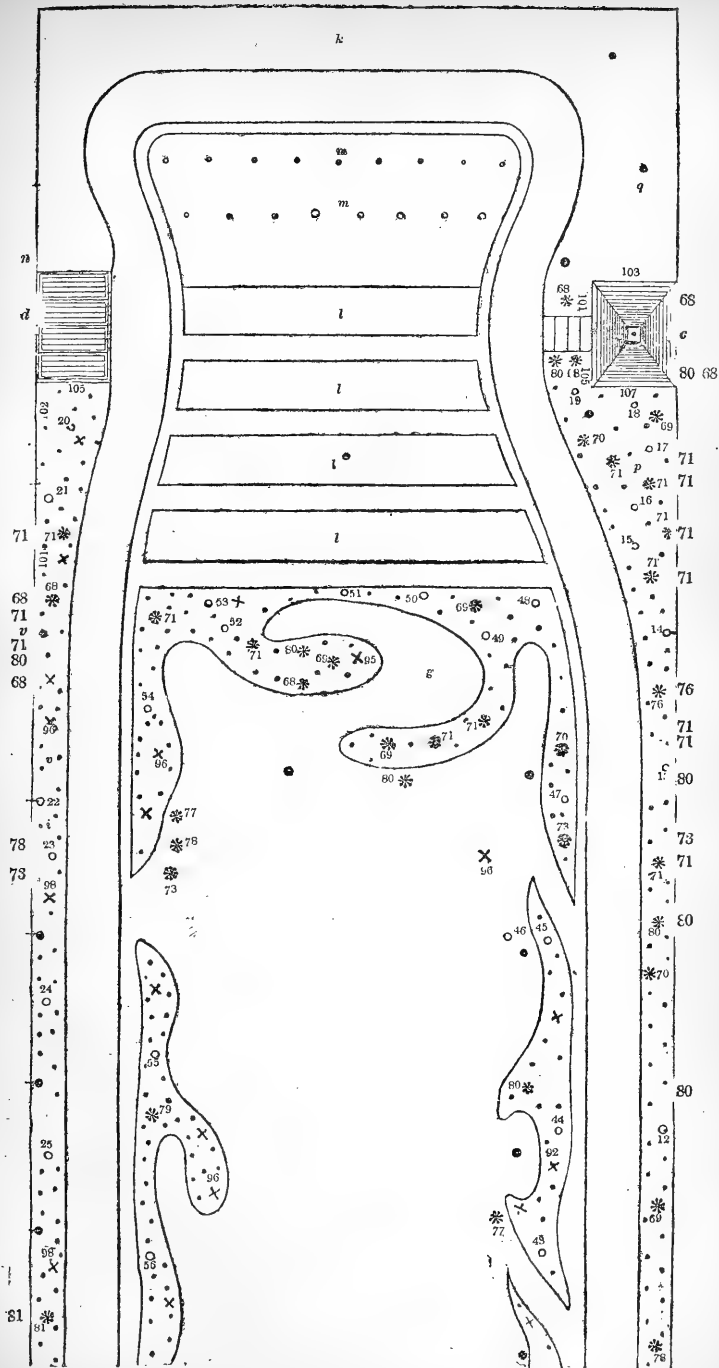
The following is a list of Evergreen Shrubs : —

67. *Cupréssus sempervirens*, the evergreen cypress, 6d.
68. *Arbutus Uñedo*, the com. and scarlet arbutus, 1s., 8 plants.
69. *Phillyrea angustifolia*, the narrow-leaved phillyrea, 1s. 6d.
70. *Rhámnus Alaternus*, the common alaternus, 1. 6d.
71. *Ilex Aquifolium* var., variegated hollies, 1s., 23 plants.
72. *Cerasus Laurocerasus* var., variegated laurel, 6d.
73. *Rhododéndron pónticum* and *catawbiense*, hardy rhododendrons, 6d., 6 plants.
74. *Escallònia rubra*, the red escallonia, 1s. 6d.
75. *Cratægus Pyracantha*, the evergreen hawthorn, 6d.
76. *Aucuba japónica*, the common aucuba, 6d.
77. *Juniperus suécica*, the Swedish juniper, 1s.
78. *Búxus sempervirens* var., variegated box of different sorts, 6d.
79. *Cistus* sp., the rock rose of different sorts, 1s., 2 plants.
80. *Vibúrnum Tinus*, the laurustinus of different sorts, 6d., 8 plants.

The following is a list of Deciduous Shrubs : —

81. *Dáphne Mezereum*, the common mezereon, white, red, and autumn-flowering, 1s. 6d., 3 plants.
82. *Chimonánthus frágans*, the fragrant chimonanthus, 2s. 6d., 2 plants.
83. *Hamamèlis virgínica*, the wych hazel, 1s.
84. *Calycánthus flórida*, the Carolina allspice, 1s.
85. *Syrínga vulgàris álba*, the white lilac, 6d.
86. *Syrínga vulgàris purpùrea*, the purple lilac, 6d.
87. *Syrínga pèrsica*, the Persian lilac, 6d.
88. *Vibúrnum Opulus ròsea*, the Guelder rose, or snowbal tree, 6d.
89. *Cýtisis álbus*, the white broom, 3d.





90. *Spiræa bella*, the beautiful spiræa, 6*d.*
91. *Colutea cruenta*, the bloody bladder senna, 6*d.*
92. *Coronilla E'merus*, the scorpion senna, 6*d.*
93. *Azalea pontica*, the common yellow azalea, 1*s.*
94. *Symphoria racemosa*, the snowberry, 6*d.*
95. *Spartium junceum*, the Spanish broom, 3*d.*
96. *Cydonia japonica*, the Japan quince, 1*s.* 6*d.*
97. *Clèthra alnifolia*, the alder-leaved clethra, 6*d.*
98. *Hibiscus syriacus* var., the althæa frutex, 6*d.*
99. *Ribes sanguineum*, the red-flowered currant, 9*d.*
100. *Ribes aureum*, the yellow-flowered currant, 9*d.*

All the crosses marked in the plan, which are not numbered, are for different sorts of roses; and the number of these may be increased at pleasure, diminishing the number of herbaceous plants in proportion, according to the taste of the owner; 6*d.*, 25 plants.

The following is a list of the Climbing Shrubs for covering the privy, summer-house, a part of the boundary wall and porch, and part of the walls of the house:—

101. *Caprifolium flexuosum*, the Chinese honeysuckle, 1*s.* 6*d.*, 4 plants.
102. Common twining honeysuckles of sorts, 6*d.*, 6 plants.
103. *Clématis* and *Atragène* of sorts, 6*d.*, 6 plants.
104. *Lycium barbarum*, the Duke of Argyle's tea tree, 6*d.*
105. *Jasminum officinale*, the common jasmine, 6*d.*
106. *Ampelopsis hederacea*, the five-leaved ivy, 6*d.*
107. *Rosa multiflora*, and *Grevillei*, the many-flowered and Greville's rose, 1*s.* 6*d.*, 2 plants.
108. *Wistaria Consequana*, Consequa's wistaria, 1*s.* 6*d.*
109. Giant ivy, and Ayrshire rose, 3*d.*, 4 plants.

The trees required amount to 67; which, at the above prices,				
average 1 <i>s.</i> 2 <i>d.</i> each (cash), and come to	-	-	-	3 18 1
Shrubs and roses, 108,	-	-	-	4 2 6
Climbing shrubs, 26	-	-	-	0 19 3
Herbaceous plants, annuals, and biennials, 546; and, supposing				
the greater number of them to be annuals, they may be purchased for	-	-	-	6 6 0
				<hr/>
				£15 5 10

According to the above enumeration, there need not be a dozen duplicates in the garden; for, though there are some of the species repeated (such as the laurustinus, the *Cydonia japonica*, the Chinese rose, &c.), different varieties of each species may be chosen. The herbaceous plants may be selected on the same principle; so that, in this small garden of not quite a quarter of an acre, nearly 800 different kinds of ornamental plants may be exhibited.

As the trees and shrubs are not crowded together, no thinning out will be required for at least ten or twelve years, provided the

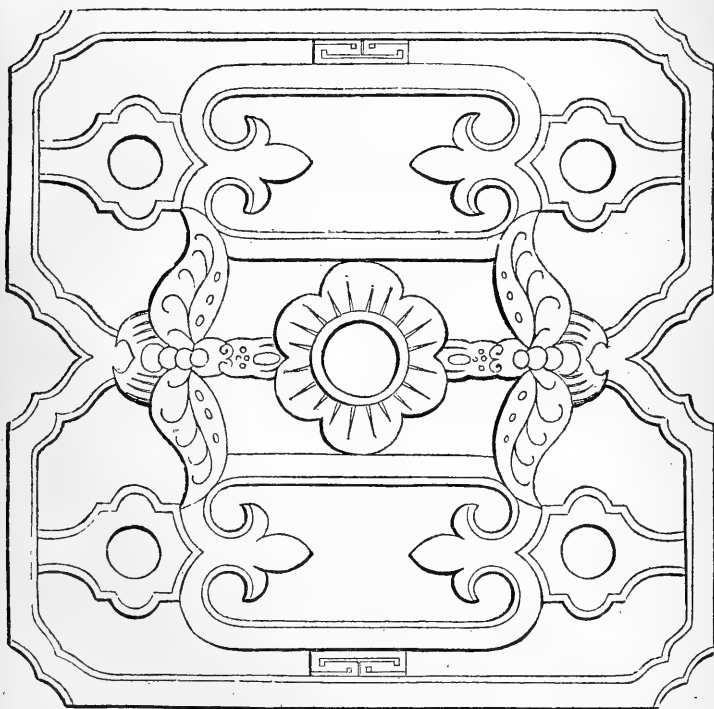
pruning-knife be properly applied; but the space for the herbaceous plants will be diminished every year: for which reason we would recommend annuals and biennials to be sown nearest to the shrubs or trees; and the perennials planted only in the open spaces, where they are not likely to be disturbed for several years.

In disposing of herbaceous plants in mixed borders of trees and shrubs, like those in the design before us, perhaps the only practical mode is, to endeavour to have some plants in flower throughout the whole garden, and of different colours, every month in the year. By the aid of our tables in the *Encyclopædia of Gardening*, this may be very easily accomplished.

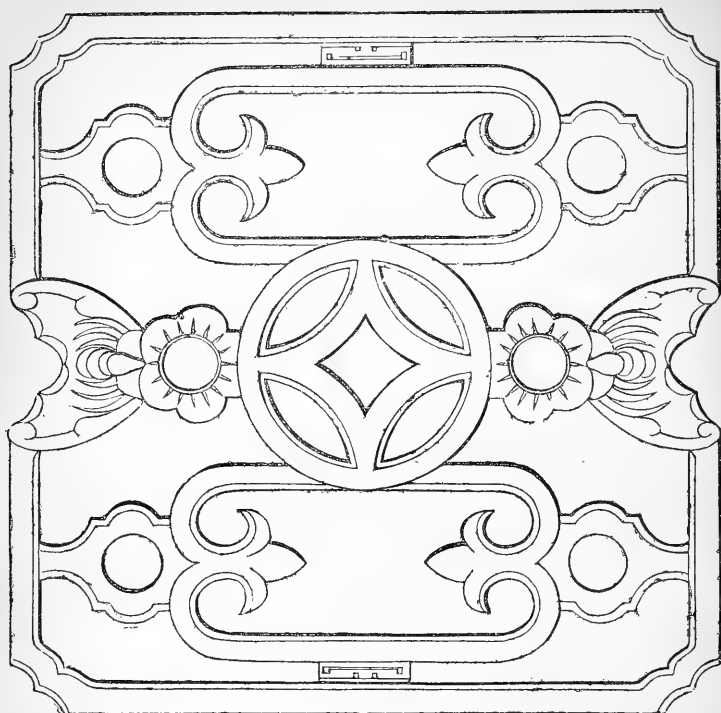
ART. III. *Notice of Two Chinese Tiles used for Garden Purposes in the Suburbs of Canton.* From a Communication by J. REEVES, Esq.

THE tiles, of which *figs. 20. and 21.* are correct representations, were exhibited by Mr. Reeves at a meeting of the Horti-

20



cultural Society in Regent Street, in October last, as noticed in p. 110.; and, a day or two afterwards, that gentleman kindly



presented them to us. After making the drawings from which our figures are engraved, we sent them to Mr. Austin, the artificial stone manufacturer in the New Road ; and he has succeeded in producing fac-similes of them in his hard and durable composition.

In China, Mr. Reeves informs us, these tiles are inserted in the low walls that separate the courts and gardens of dwelling-houses, on the copings of which walls are placed pots of flowers. They are also used in forming ornamental openings in walls of a higher description ; in which case sides and corners are added, for the sake of uniformity. In either case these tiles are placed double, on edge, and at such a distance from each other as to allow the space between to be covered with a brick placed lengthwise ; the walls constructed above the ornamented panel being always terminated by a coping, sufficiently broad to receive pots of flowers or dwarf trees.

In Britain these tiles may be applied to a variety of purposes, more especially when made in the perfectly accurate manner, and of the hard and durable material, of which they are manufactured

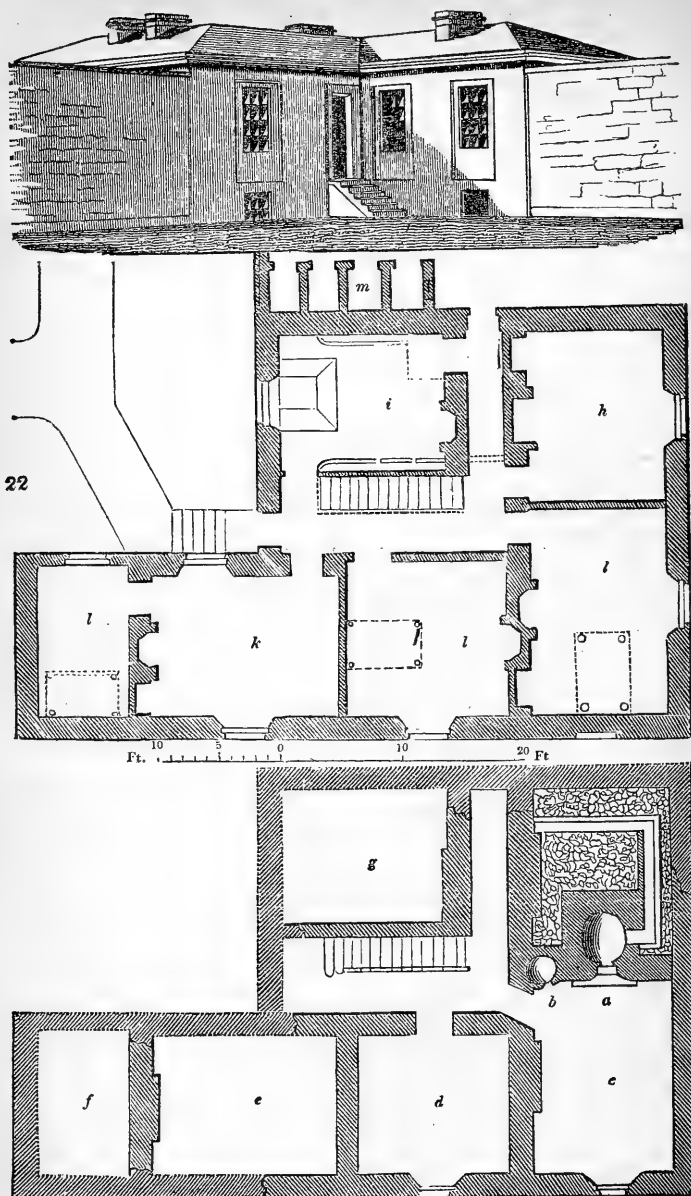
by Mr. Austin. They may be laid down as flooring to a greenhouse or a summer-house, and the interstices may be filled in with a red or black coloured composition, so as to leave the form of the tile of a stone colour. Windows in tool-houses, sheds, privies, &c., and openings in walls, might be disguised by such tiles in the same manner as that in which they are now concealed by Grecian or Gothic ornaments. Walls, separating or surrounding small gardens, might be formed either partly or entirely of these tiles: garden seats and benches might also be formed of them. They would form pedestals for pots or vases, and they would supply models for Chinese flower-gardens. Either of these tiles, enlarged to the scale of one eighth of an inch to five feet, would form a very curious flower-garden; the solid work, or tracery, of the tile constituting the gravel walks, and the open panels the dug beds.

ART. IV. *Design for a Gardener's House, adapted for the South-East Angle of a walled Kitchen-Garden.* By Mr. ROBERTSON.

THE present design (*fig. 22.*) completes the series of eight gardener's houses, adapted for being connected with the walls of kitchen-gardens. They are all in the very plainest style possible, and with the chimney tops low, in conformity with the prevailing idea that such houses ought not to be obtrusive objects in the scenery of a country residence. There is one circumstance connected with them to which we wish to direct particular attention. They have all cellars or hollow spaces below the floors. In by far the greater number of gardener's houses at present existing, the floors are only a step or two, if so much, above the level of the adjoining surface; and, as such houses are almost always in confined situations, they are consequently damp and unwholesome. It is a great mistake in masters, to suppose that they can make the most of their servants when they lodge them in such houses; and an equally great one in those who are lodged in them, not respectfully to remonstrate with their employers on the subject.

The next designs for gardener's houses which we shall give will be for detached dwellings; either in a portion of the ground belonging to the kitchen-garden, which we consider the proper place; or exterior to it, so as to become an agreeable object in the general scenery. All these designs will be more ornamental than those already given.

In the title of the preceding design, p. 65., for "south-west wall" read "south-west angle."



In the design before us (*fig. 22.*), *a* is the oven, which heats the floor of the kitchen in the manner before described; *b*, the boiler; *c*, the wash-house; *d*, dairy; *e f g*, foundations; *h*, kitchen; *i*, office and garden library; *k*, parlour; *l l l*, bedrooms; *m*, places for fuel, water-closet, &c.

ART. V. *Scottish Arboricultural Notices, by Mr. Gorrie, Mr. Dorward, Mr. Young, and Mr. Bishop.* Communicated by Mr. GORRIE.

It is only in very few instances that I have been able to obtain satisfactory information respecting the precise age, or period of introduction into Scotland, of exotic timber trees. The sizes of many hereafter stated, in a climate in no way remarkable for producing rapidity of growth, will afford a criterion of age, where dates cannot be supplied. The walnut seems to have been a sort of favourite about 150 years ago: a number of trees of that age surround what was once the manor garden in the village of Rait, on this estate. They measure from 2 ft. 6 in. to 3 ft. in diameter, and from 54 ft. to 60 ft. in height; and bear regular crops of ripe fruit every year. At Castle Menzies, the seat of Sir Neil Menzies, about 18 miles north-west from Dunkeld, the boles of walnut trees seem to be of larger dimensions; as will be seen by the following extract from a letter kindly sent me by Mr. James Dorward, dated Castle Menzies, Jan. 26. 1835. Here I may remark that the circumference, and not the diameter, of the trees is mentioned:—

	Girth.		Height.		
Walnut	11	ft. 5 in.	55	ft.	
Silver fir	12	4	94	6 in.	Branches extend 53 ft.
Norway spruce	10	10	84		
Weymouth pine	8	7	53		
Red cedar	6	1½	41		
Tulip trees	10	6	45		
Poplar	11	5	105		Does not say what species.
Willow	16	3½	90	10	
Larch	12	2½	92	3	
Spanish chestnut	19	9	74		Branches spread from 70 ft. to 80 ft.
Horsechestnut	9	2½	77		
Sycamore (same place)	21	10½	84		{ Branches extend over a diameter of 101 ft.

Besides the above exotics, Mr. Dorward mentions that some oaks measure from 70 ft. to 89 ft. in height, and about 14 ft. 7½ in. in circumference; and some fine beeches, nearly the same size. Some English elms are 9 ft. 10 in. in girth, and 86 ft. 4 in. in height; and some Scotch pines, 10 ft. 6 in. in girth, and 89 ft. 5 in. in height. He does not specify the ages; but says, from tradition, that “many of them are older than the present castle, which was built 254 years since.”

At the right side of the river Tay, and close to the west end of the bridge of Perth, stand a few fine trees of the Lombardy poplar, measuring 10 ft. in girth, and from 75 ft. to 80 ft. in height. In a letter from my friend Mr. Young, he informs me that “they were planted by the late James Richardson, Esq., of Pitfour, when about ten years of age; so that the trees will have been sixty-four years planted.” Several other trees of the same species, and apparently of the same age, stand on the east

bank of the Tay, above Bridgend. A letter, containing some valuable information respecting old trees in various parts of Scotland, from my friend Mr. Bishop, Methven Castle, dated Jan. 28., has come to hand; the business part of which I shall give entire, as I consider any attempt at abridgment would impair its value. It commences with a description of the cedar of Lebanon, noticed, p. 49., as standing at Gray, at the east end of the Carse of Gowrie.

“The cedar,” he says, “at Gray House is the largest I have seen in this country: it measured, in 1829, 15 ft. 9 in. in girth, 1 ft. from the ground. At the height of 2 ft., it divides into three large stems; and these are again subdivided, at several feet higher, into twelve large arms, which form a very extended top. Its age is unknown. There is a cedar at Hopetoun House, very similar to the one at Gray; and several at Arniston, in Haddingtonshire, some of which measured, at 3 ft. above the surface, 9 ft. 3 in., 8 ft. 3 in., and one, with a bole 25 ft. high, 6 ft. 9 in. in circumference. The one at Dupplin Castle, Perthshire, that you have so often seen, girthed 10 ft., two years ago, 3 ft. from the ground.

“Girth of Spanish chestnut, at various places, 3 ft. from the ground:—

The largest at Dupplin, in 1826, measured	14ft.	6 in.
The same tree - 1832 - -	15	6
One at Castle Menzies - 1816 - -	13	0
One at Kinfauns Castle - 1829 - -	14	0
One at Muithly Castle - 1832 - -	14	0
One at Gask House - 1832 - -	14	0
One at Kier House - 1833 - -	15	6
One at Hopetoun House, } 1832 - -	12	9
bole 50 ft. long - }		

(In Mr. Dorward's report, the largest Spanish chestnut at Castle Menzies now girths 19 ft. 9 in. (see above); and is not likely to be the same tree as that measured by Mr. Bishop in 1816: as, in that case, it must have acquired, in eighteen or nineteen years, an additional diameter of about 26 in.)

“The largest Spanish chestnut said to be in Scotland grows at Cairn Salloch, in Dumfriesshire; and it contains 527 cubic feet of wood. The bole, at 2 ft. in height, girths 26 ft.; and it is divided into four large arms, 36 ft., 35 ft., 31 ft., and 28 ft. in length.

“*Larches* (*Làrix*).—The largest larch at Menzie, near Crieff, girths 15 ft. at 3 ft. from the ground, being 4 in. more than the largest one at Dunkeld of the same age; both being planted in 1738: but it does not contain the same quantity of timber as that at Dunkeld, which measures 350 cubic feet. The larch cut at Blair, from which the late Duke of Athol's coffin was made, measured 106 ft. in length, and contained 81 cubic feet.

“*Silver Fir* (*Abies Picea*). — The largest two noted in my book are at Roseneath, measuring about 20 ft. in girth : the two trees containing 1053 cubic feet. In 1829, I measured the largest at Dupplin, at 3 ft. from the ground : it girthed 13 ft. 2 in., containing 380 ft. of measurable wood. In 1832, I measured a silver fir near Arniston House, and found it to girth 13 ft., and of similar dimensions with the one at Dupplin.

“*Pinaster* (*Pinus Pinaster*). — On the estate at Gray, near the church, in 1831, I measured a tree of that species ; and found its girth, at 3 ft. from the ground, to be 8 ft. 5½ in., with a bole of 30 ft. in length, reckoned to contain 50 cubic feet.

“*Black Italian Poplar* (*Pópulus akladésca*). — One planted by the burn side, at Tippermallow, near Methven, on May 5. 1776, contained, in 1802, 40 cubic feet ; in 1812, it contained 67 cubic feet, girthing 6 ft. 9 in. ; in 1827, it contained 198 ft., length of bole 59 ft., girth 9 ft. 8 in. ; and, in 1831, it girthed 10 ft. 4½ in. One of the same species, at Barnhill, near Perth, measured in girth 10 ft. 9 in. ; one at Moncrieff House measured in girth 10 ft. 10½ in. in 1832 ; one at Taybank, near Perth, planted in 1785, girthed 10 ft. 7 in. in 1834.

“*The Necklace-bearing Poplar* (*Pópulus monilífera*). — One of this species, growing at Methven Castle, planted about fifty-five years since, girthed 6 ft. 8 in. ; when a black Italian poplar, planted at the same time, girthed 8 ft. 10 in. The proportional growth of poplars I take to be thus : — Black Italian, 10 ft. ; White, 9 ft. ; Lombardy, 7 ft. ; and Balsam, 4 ft.

“*Liriodéndron Tulipífera*. — The largest in Perthshire is undoubtedly the one at Gorthy. In 1829, it girthed 6 ft. 6 in. at the smallest part of the bole. At the height of 6½ ft. it divides into two limbs, the largest girthing 5 ft. 3 in., and the smallest 4 ft. 5 in. ; terminating in a large round top, about 40 ft. in height : planted between seventy and eighty years ago. In 1830, I found the tree of that species, at Pitcaithly, to girth, at 1 ft. from the ground, 6 ft. 8 in.” (Observe, Mr. Mitchell’s measurement, formerly sent, was taken at 3 ft. from the ground ; and was, in 1834, 6 ft. 6 in.) “It divides into two, at the height of about 16 ft. : total height, about 40 ft.

“*Foreign Birches*. — At Delvin, a *Bétula populifolia* girths 5 ft. at 3 ft. from the ground ; unhealthy. At Methven Castle, a *Bétula papyræa*, 4 ft. 6 in., healthy ; and a *Bétula nigra*, fifty-five years planted, girths 3 ft. 5 in. Others, in a close plantation, girth 2 ft. 3 in., boles 25 ft. high.

“The largest poplar thought to be in Scotland is supposed to be a white Egyptian at Kelso, girthing 23 ft. at 3 ft. from the ground.” (Here Mr. Bishop describes some species of the genus *Pinus* at Hopetoun House ; but as your intelligent correspondent Mr. Smith will, likely, furnish you with accounts of

these, I pass that part of Mr. Bishop's letter, that Mr. Smith may not suspect us of poaching on his manor.)

"The best locust tree in the country is thought to be at Myginch Castle, Carse of Gowrie; girthing, at 4 ft. from the ground, 5 ft. 8 in." (I understand its age is reckoned to be between forty and fifty years.)

"There are three Portugal laurels at Inverary, brought from Portugal, by Duke Archibald, in 1695. The largest spreads over a circle of 165 ft. circumference, and is nearly 40 ft. high.

"I measured the trunk of a Portugal laurel tree at Ormiston Hall, and found its girth 5 ft. 1 in. at 3 ft. from the ground. The branches of a Portugal laurel at Belmont Castle measure 100 ft. in circumference."

Besides the above information received from Mr. Bishop, who has paid more attention to such matters than any man I know, I may mention that the finest specimens of Norway spruce (*Abies excelsa*) in this country stand in a row, in the bottom of a dell, at Dupplin Castle. There are also some fine specimens of silver firs, above 3 ft. in diameter, and from 80 ft. to 90 ft. in height, at Errol Park, Fingask, and the Ballo, Carse of Gowrie, about eighty years old. A plant of *Arbutus Uredo*, at Annat Gardens, twenty-four years old, measures 3 ft. 3 in. round the stem, near the ground; the branches cover a circle, the diameter of which is 20 ft., height 14 ft. The *Platanus orientalis* was introduced into this country at least a hundred years since; and, before the year 1814, many fine specimens were to be met with at different places: but, that year, all plants of that species, above eight or nine years old, perished; and none are to be seen in this quarter above twenty-five or thirty years' standing. Some plants of twenty-five years, at Annat Park, in the middle of a plantation, are 27 ft. high; with clean stems 9 ft. up, and about 6 in. in diameter, and covered with small branches two thirds of their length. The oldest hemlock spruce (*Abies canadensis*) I know of, in this quarter, is at Invermay; where, and at Rossie Priory, are some very large and old arbor-vitæ trees.

Annat Gardens, Jan. 30. 1835.

ART. VI. *Remarks on the Rot in the Larch.* By Mr. WILLIAM TAYLOR, Gardener at Thainston, near Kintore, Aberdeenshire.

OVER the whole extent of a forest here of 100 acres of Scotch pine, from fifty-four to sixty years of age, there are a few larches scattered, about the same age as the Scotch pine, but generally much larger, some of them containing upwards of 20 cubic feet sale measure. Until of late, these larches appeared to be in a

very thriving state; but, in October last, the extreme tops of some of them were observed to be dead; and other signs of decay were visible in those growing on the parts where there was the worst subsoil. Fifteen of these were felled; and not one of them could be said to be really sound, though only one, smaller than the rest, was hollow-hearted.

A few of the healthiest were also cut down, which were allowed to be perfectly sound in respect to timber. However, the brown irregular dark-bordered spot was begun in them also. I inspected the best and worst of the first lot after they were cut into 2-inch planks. The rot in the one most affected could be seen 16 ft. up the planks; in the others, it did not exceed 2 ft., 3 ft., and 6 ft., in narrow strips: in other respects, the timber is of good quality. The soil in which the trees grew is of heath and poor vegetable mould, from 6 in. to 9 in. deep: it had formerly grown, and would naturally continue to grow, the three common heaths, ferns, mosses, &c., with a subsoil of hard gravelly clay, friable when dug up, and containing a considerable quantity of oxide of iron.

On the transverse section of the ends of the trees, fifty-four annual rings, or years' growth, can be distinctly numbered. The first sixteen years' growth in all (but the hollow one mentioned) is sound, as also the last fifteen years' growth on the outside, whether alburnum or heart wood; so that the rotting spots are contained in the twenty-three years' middle-aged wood of the tree: and there the spots vary much in situation, size, shape, and colour, and frequently do not affect the same number of annual layers even in the same tree. Besides the want of fertility in the subsoil, it must contain matter deleterious to the pine and fir tribe; for, of the many hundred Scotch pines, and not a few larch and spruce firs, which I have seen blown down by the wind, there was scarcely a perpendicular root, which had penetrated this and similar subsoils, found otherwise than completely rotten. The former were either *rosen-run* above the root, or *cankered* (as it is here termed) farther up the tree; the two latter nearly always began to rot at the root ends. May we not, therefore, infer that the rot in the larch originates in the root, and, in time, extends up the tree? and that the cause of all the evil is the penetration of the root into a bad subsoil?

In accordance with this idea, I shall mention an instance where larch has been planted, "again and again," on hills (not too high), in good heath mould, on a subsoil of reddish sand, where trees have as often dwindled and died before they were 6 ft. high.

The best larches in this part of the country grow by the bank of a river, in a bed of alluvial soil, on a rock, which is the only subsoil. The largest of these trees is 100 ft. high, and 9½ ft. in

girth at 4 ft. from the ground. The second best in this vicinity grows in peat or bog earth 8 ft. to 10 ft. deep. They have ceased from their labour, and are at rest, who planted them; but we are told that, before the trees were planted, large pits were dug and filled with good loam, where the trees have come to a large size; and all of them that have been felled were quite sound, and of good quality.

Thainston, near Kintore, Aberdeenshire, Nov. 1834.

ART. VII. *Remarks on the "Fruit Cultivator" of Mr. Rogers.*

By T. G.

HAVING been much pleased with this work, I beg leave to send you a few remarks on it, which I am the more anxious to do speedily, in order that I may not seem to be led by the review which you will no doubt give of it in your pages. I must premise by observing that I am not only not personally acquainted with Mr. Rogers, but that I did not know, till I saw his work advertised, that such a person existed. I give you, for your private satisfaction, my name and address, though I do not wish either to be known to the public.

The author observes, in his preface, that a complete work on the subject can never be compiled, unless every man of long experience do for himself and the public what he (the author) has endeavoured to perform. He proceeds to state that, during a long life of varied and active employment, he has made and kept notes of the results of his practice, which he now, in his eighty-third year, is induced to offer to the young gardener and nurseryman, as a fund of information which he trusts will not be unworthy of their notice.

What renders the work well deserving of attention is the information it contains relative to the origin of many varieties, with the originators of which Mr. Rogers had an opportunity of being conversant, in consequence of his longevity, dating the commencement of his recollections almost at the middle of the last century. Information of this sort is valuable; for, when the origin of a variety is clearly established by indisputable facts, there is less chance of confusion afterwards from others attaching a name to a variety, which they might consider they had a right to do, in the case of one straying, as it were, without an owner, and apparently as much the right of one as of another. For instance, the Dumelow's seedling, or Wellington apple, is sometimes called the Duke of Wellington: now, the latter name would not have been likely to have been added to it, had it been originally known that Dumelow raised the apple, and that it had the name of Wellington from having been cultivated at

the place of that name, in Shropshire, near to which it was raised.

Another very important character in the work is the attention that is wished to be directed to the sort of stock, the kind of soil, or the situation and other peculiarities of treatment which certain species or varieties require. This renders it of practical value; and fruit growers would do well to follow up such observations in regard to the peculiarities of treatment of the various sorts they may possess, and of which no particular notice in this respect has been hitherto taken.

The following parts of Mr. Rogers's work appear to me well worth the attention of the practical gardener.

"*Canker*.—This seems to be a constitutional disease, and to arise from a defect in the organisation, occasioned by impure qualities taken in by the root from an ungenial subsoil." (p. 117.)

Strictly speaking, a disease cannot be entirely "constitutional" when it is "occasioned by impure qualities taken in by the root from an ungenial subsoil." This may be a cause; and more especially so in combination with something ungenial in the season, acting on the peculiar disposition of the sort in regard to its developement in the early part of the summer. Every one knows that immature buds, on a basis of badly ripened wood, suffer most from spring frosts. One species of canker, in particular, in apple trees, will be observed to originate where a sort of spurs protrude from wood of some years' growth, which tend to assume the form of fruit spurs, but which perish in inclement springs after the commencement of their vegetation. When affected by frost, they become dead and dried even to their connection with the alburnum; and they remain exsiccators of the sap, or, at all events, they act as stumbling-blocks to its circulation. These spurs, it may be farther remarked, partake of the precocity of properly formed fruit spurs; but the buds on the latter are better protected, and therefore are not so liable to be killed: but, if this should happen, they ramify from an immediate connection with the branch, and their pedicel assumes a woody nature, very different from the soft parenchymous substance of which they, at their first protrusion, were composed.

While practical men are observing on the above, they will perceive that only one species of canker is here alluded to. There are many other kinds, which it is not proposed at present to enter upon. There is a sort, for instance, where the whole bark is infected with morbid blotches, of the cause of which some gardeners may, perhaps, be better able to satisfy themselves, than he who presumes to offer for consideration the preceding remarks.

For canker, in general, experience has proved that a partial remedy will be found in draining the subsoil or otherwise im-

proving it. But, while excess of moisture is being guarded against, it would be well also to attend to the prevention of the opposite extreme; for both may occur in the same situation at different periods of the season, and, in that case, with the most deleterious effects; for one excess does not counteract the other, but, on the contrary, the evil is proportionally increased. Orchards may be reckoned happily situated, where irrigation can supply moisture to forward the growth of the shoots in the early part of the season, and can then be withdrawn to admit of the complete ripening of the wood; when, in other places not possessing these advantages, the shoots are only about to be vigorously produced. Fruit-tree borders in front of houses or walls ought always to be so far under the command of art as to render the attainment of the above object always possible.

The Kentish and Flemish cherries, Mr. Rogers observes, are only one and the same variety, though some writers have endeavoured to make a distinction between them, because Miller used the first, and Langley the second name. This is, to a certain extent, true; but it appears from a paper by Mr. Thompson, in the *Horticultural Society's Transactions*, second series, i. 286., that there are two varieties which bear these names; and that "the fruit of the Flemish is very like the Kentish, except in having a shorter stalk. The trees grow more upright, but are not such abundant bearers. The fruit possesses the same properties as the Kentish."

Speaking of soils suitable for fruit trees, the author observes, —

"Deep rich soils, in sheltered situations, are not the most proper for the apple, though such have been most erroneously recommended by writers who ought to have known better. For it is often seen that apple trees succeed well in any kind of loam, though it be not more than one foot in depth, so as the bottom is sound and dry: the roots take an extensive horizontal range, the young wood is always of more moderate growth, and better ripened than where roots strike deep into the ground."

The nature of the subsoil, he continues, should also be well considered: if very wet, whether clay or gravel, the trees should be planted "proportionably higher, even on the surface, rather than run the risk of the roots getting too deep, which they are apt to do, in dry summers, in search of moisture. So much has this circumstance been dreaded by orchardists, that the author is acquainted with one instance in which an extensive orchard, belonging to an ancient priory, was completely paved with stone under the trees, to prevent the roots descending into the wet subsoil, and with the best effect."

The degeneracy of the Golden pippin apple has been a fertile subject of discussion among orchardists during the last thirty years, since Mr. Knight first suggested the idea of its degeneracy from old age. On this subject Mr. Rogers has the following remarks: —

"The Golden pippin being one of our most useful and esteemed hardy fruits, the author trusts he will be forgiven for entering more at large into its history and management than he has thought necessary in the preceding notices of other inferior kinds of apples, especially as there has been, for several years past, an idea prevalent, that this country was about to lose this fine fruit for ever. In Mr. Knight's *Treatise on Orchard Fruit*, the doctrine was first broached, that all our varieties and subvarieties of fruits have but a temporary existence. They are raised from seed, flourish for an uncertain number of years, and, after arriving at their maximum of health and fertility, gradually sink to decay, and at length disappear. Taking this idea as a rule, the golden pippin was judged to be in this last stage of existence; and it was predicted, that not only were the old full-grown trees to disappear, but all the young ones, lately worked from them, would perish also. It must be admitted, that a great majority of the old Golden pippin trees in Herefordshire, and in other parts of the kingdom, were, about the time Mr. Knight wrote his treatise, in an apparent state of decay; and, moreover, that young trees of the same sort could but with difficulty be made to grow and bear so freely as they had previously done. These failures, however, were accounted for in another way than that propounded by Mr. Knight. It was observed, that the old trees, having probably all been planted about the same time, and having arrived at their natural period of healthy existence, were, like all other trees, falling to decay from sheer old age; and that the contemporaneous weakness and debility of the young lately planted trees were caused by a careless choice of grafts, by working them on improper stocks, and planting them in old worn-out soil, instead of in fresh, well-trenched, light, loamy situations. This latter opinion was the more feasible, because there were many middle-aged trees in different parts of the kingdom, which were in full vigour and bearing; and though young plants pitted in old gardens and orchards were unthrifty, such as were properly planted in newly broken-up ground, provided they were worked on the best crab stocks, succeeded as well as ever.

"This being the opinion of the author respecting the failure of the old Golden pippin, and other old sorts of apples, he gave the subject his best consideration, and set about proving how far his own conjectures were well or ill founded; and, after the experience of forty years, he has come to the following conclusion; viz., that if crab stocks be raised from the most healthy wild trees, properly treated, and planted out in the nursery, and worked with the most healthy moderate-sized scions, cut from the top of sound healthy trees, and, when fit for final transplantation, be placed on well-trenched light fresh loam, having a dry bottom of rock or chalk, the trees will assuredly prosper without fear of disappointment. On the other hand, if the grafts be taken indiscriminately from any tree, or from any part of a tree, and placed either on free or paradise stocks, the young trees so raised will, nine times out of twelve, be in some respect or other defective; and particularly if they be not afterwards planted in their favourite soil, where their wood would not be sufficiently ripened.

"The Golden pippin requires a dry and moderately warm climate. The best fruit are produced in Normandy on the Continent, in Sussex in England, and on walls in Scotland. The south of France is too warm, and the richer counties of England and Ireland are too moist. This apple is supposed to have been first raised at Parham Park, on the South Downs of Sussex.

"It has been noticed of late years, that neither the Golden pippin nor Nonpareil keep so well as formerly. The author well remembers, that, sixty years ago, both these kinds of apples were plentiful in May; but it is not so at present. This is attributable to two causes; our summers lately being more moist, and perhaps too many free and paradise stocks used in the nurseries. It has been deemed a good practice to raise the Golden pippin from cuttings or layers. This plan is quite practicable; and some practitioners have been very successful in raising plants from cuttings, intended for potting.

Trees may also be raised by layers from stools kept on purpose in the nursery."

The following remarks on the filbert well deserve attention : —

" That style of pruning which is found the best for the currant is also the best for the filbert.

" The young plants which are chosen by the Maidstone growers are such as have been raised from layers, and which have been lined or bedded out in the nursery for two or three years. Each plant should have one strong upright shoot, of not less than 3 ft. in height, this being necessary in order to the future form of the head ; and this, early in the spring, after the trees have been put out in their final stations, is cut down to about 1 ft. 6 in. from the ground. This height will admit of a clear stem of 1 ft. below ; and which part must be at first and ever afterwards kept free from shoots, as well as suckers from the root. This deprivation of shoots and suckers will cause the buds left at the top to push with greater vigour. If eight strong shoots be produced in the first summer, they must be carefully preserved, as that number is required to form the head ; but if less than this number come forth, then two or three of the strongest (or the whole, if necessary) must be shortened back to half their length at the next pruning, in order to obtain the requisite number.

" The sufficient number of branches being obtained, if not in the first, certainly after the second pruning, they are to be carefully preserved, and trained outwards and upwards ; at first nearly horizontal, but curving gradually upward at the point. The easiest mode of doing this is by using a hoop of the proper size placed within the shoots, and to which the latter are tied in star-like order, and at equal twelve-inch distances. Such a laterally curving position may be much assisted and caused by a careful pruner, always cutting at an outside bud, which, when grown sufficiently far outwards, naturally turns up to form the permanent branches.

" The points of the branches are allowed to rise to the height of 6 ft., but never higher ; and the middle of the tree is always kept free from shoots and branches, so that a well-trained head resembles a large bowl.

" The subsequent management of the trees, both while gaining the desired form, and after having gained it, consists in preserving all the short spurs which will be produced on the branches, and cutting away or shortening the laterals which every year rise from the same. The management of these laterals is of great consequence. If they exceed the length of 6 in., they may be cut back to a few buds ; but if less, they should be preserved, as their points are generally fruitful. The grand object with the pruner is to have the branches thickly beset with fruitful spurs, and which are only reduced in length, when, after a few years' growth, they become too distant from the branch ; when they are cut back to a healthy spur behind. If any part of the branch becomes accidentally naked, a strong shoot from the bottom may be led up, and managed so as to fill up the vacancy.

" When filbert trees are thus managed, and have arrived at their full volume in width and height, they may be kept in the same state for many years, say twenty or thirty, by the knife only, and with the requisite skill in using it.

" The plantations in Kent are either in single rows, or in entire quarters or fields. The plants are put in at 8 ft. or 10 ft. distances, more or less, according to the quality of the soil. 680 plants are required for an acre, at 8 ft. distances every way ; at 10 ft. distances, 435 ; and at 12 ft. distances, 302 trees will be required.

" The Kentish pruners, who, as observed before, are neither botanists nor physiologists, are, notwithstanding, well aware of the use of the male catkins, rejoicing to see them in great quantity, and carefully preserving them. From the greater or less number of the catkins, they usually predict what share of crop will follow."

"The practical example set us by the Maidstone pruners confirms two very essential principles in the art of gardening; viz., that by counteracting the natural tendencies of a plant, it may be dwarfed, and, by thus dwarfing, made more fruitful. The filbert tree is so constituted, that it is ever extending itself by throwing up a multiplicity of suckers, which exhaust the bearing branches, and render them sterile; but denying the plant its tendency to increase itself by suckers promotes its energy to increase itself by seeds.

"Filberts intended for long keeping should remain on the tree till they are thoroughly ripe, which is easily known by their rich brown colour. They should be laid on a dry floor for a few days, and afterwards stored in jars of dry sand, where they will keep sound for a great length of time."

The White Muscadine grape, which the author (p. 221.) considers as the Chasselas musqué of the French, appears to be rather their Chasselas de Fontainebleau. The berries of the latter are clear, while those of the former are tinged with yellow.

Millet's mignonne peach forces well in pots or boxes. Mr. Brown, gardener to the late Lord Cremorne, at Chelsea, kept all his trees in tubs or boxes, like orange trees, for years, and supported them chiefly by the use of liquid manure. This was composed of soft water, horse droppings, and a little soot. The sorts Mr. Brown considered best for growing and forcing in this manner were, the French mignonne, Violette hâtif, Early admirable, Millet's mignonne; and, for later fruit, the Belle-garde. (p. 279.)

Of the Scotch pear, the Winter Achan, Mr. Rogers observes that the fruit does not arrive at so great a perfection in the south of England as it does in Scotland. (p. 321.) However paradoxical this may seem, experienced gardeners know it to be a fact. The skin of this fruit is smooth, of a dull brown colour, covered with grey dots. The pulp is melting, juicy, and of a good flavour.

Speaking of the walnut, we are told, —

"The nuts should not be gathered till the outer covering parts readily from the shell, which is before the former becomes mealy. There is a critical time at which the covering leaves the shell without staining it, which they are apt to do if allowed to become soft. When shelled, they should be well dried in the sun for a day or two, and then stored away, either on shelves in an airy room, or packed in jars or boxes, among dry white sand, which improves the colour of the shell, and keeps the kernel more moist."

"A decoction of walnut leaves is sometimes useful in gardens; it kills earth-worms: and if gooseberry trees are sprinkled with this liquor soon after the leaves are expanded, it defends them from the caterpillar."

These remarks, should you think fit to publish them, will show that Mr. Rogers's experience is not unappreciated by one of his brethren, who, like him, has seen a good many summers, and is also, like him, a nurseryman.

ART. VIII. *On destroying the White Scale on Pine-Apples, together with some Remarks on the Natural History of that Insect.* By J. B. W.

THE pine-apple plant, when cultivated in the hot-houses of this country, is subject to the attacks of three species of insects, known by gardeners as the brown scale, the white scale, and the mealy bug. Of these, the brown scale is comparatively harmless; the mealy bug, too, although extremely unsightly, is by no means so injurious to the health of the plants it attacks as the white scale. Beneath the latter, there is always a small speck upon the leaves, quite divested of the usual green colour, and, apparently, of life. When, therefore, the insects become numerous on a plant, which soon happens after it is once fairly infested, as each of them destroys a part of its vitality, it might, perhaps, in so far as regards injury to the vegetable economy, be fairly compared with one in whose leaves a like number of small holes had been punched. But it is not clear whether this deprivation of vitality ought to be attributed to the abstraction, by the insects, of the juices which sustain life; or to the destruction of the sap-vessels of those parts of the leaves they cover and feed upon, or to both these causes combined: nor, indeed, would a knowledge of the precise manner in which the mischief is done be of any assistance in the destruction of an enemy which, insignificant as it seems to those who are unacquainted with its powers of endurance, generally proves the conqueror.

Of all the various remedies hitherto recommended for the eradication of the white scale, not one, I believe, has been found to effect the desired end with certainty, in consequence, as it appears to me, of their having been improperly applied. A slight glance at the economy of this insect, securely protected by a waterproof coat, is sufficient to show the uselessness of attempting to kill it by any kind of wash, unless, indeed, it were something of a powerfully caustic quality, which, most likely, would make an end of both insects and plants.

So long as the scale adheres to the plants, it may be accounted invulnerable, and it might be laid down as an unexceptionable rule, that no recipe ever has succeeded, or ever will succeed, which does not strictly enjoin the removal of every insect previously to the application of the ingredients. Upon this rule the following remedy is founded; and having been witness to two successful trials, one of which was made upon plants under my own care, I can most confidently recommend it. For a knowledge of it, I am indebted to Mr. John Wilson, gardener to the Rev. H. Pemberton, Church Stretton, Salop; and, although I am not authorized by Mr. Wilson thus publicly to mention his

name, I feel in justice bound to acknowledge his undivided claim to the credit of its discovery.

Much of the success of this remedy depends upon the manner of applying it: I will, therefore, describe minutely the process practised by myself. In the first week of November, the plants were taken out of the bark bed, a few of the lower leaves pulled off, and every insect that could be discovered, by the most careful inspection, was rubbed off. The plants were then well syringed with clear water, for the purpose of washing away any insects that might have fallen into the axils of the leaves. A strong lather of soft soap was next dashed over them from a syringe, observing that not the smallest portion of the leaves remained untouched; and, while wet, they were dusted all over with a powder composed of black sulphur, yellow sulphur, and soot, mixed in such proportion as to resemble the colour of the leaves as nearly as it was possible to make it. After top-dressing, the pots were replunged, and the plants treated in the usual way. Early in February, it became necessary to increase the temperature of the house to 70° (in consequence of vines trained to the rafters being at that time in blossom), and the plants were then frequently syringed; the powder, which had adhered closely to the leaves, was in this way gradually washed off; and, by the end of summer, the plants had nearly regained their natural colour. They, also, were entirely free from insects; and have continued so ever since.

It should be observed, however, that the complete destruction of these parasites is not always to be obtained by a single dressing; for, owing to the great difficulty of discovering every insect, when plants are badly infested, it is highly probable that a few may be overlooked: and, in that case, the plants upon which they are found should immediately be subjected to a repetition of the whole process. It must not be supposed that the washing and powdering will kill the insects that remain undisturbed upon the plants: and yet this quality is attributed to most of the nostrums which I have read. Respecting the assistance afforded by the sulphur and soot towards effecting this desirable end, it might be remarked that, in Mr. Wilson's opinion, either of the ingredients alone, or, indeed, almost any other powder, would be equally efficient; the rationale of its action being to prevent the adhesion to the leaves of any young insects which might possibly be bred on parts of the plants from whence it is impracticable to dislodge the old stock, as, for example, among the bases of the leaves. I not only concur with Mr. Wilson, but am farther inclined to believe that the oily coating, left upon the cuticle by the soft soap, will answer the desired purpose fully as well, without any powder whatever; but, as this opinion is founded upon a single experiment, it needs confirmation.

Circumstances made it unavoidable for me to perform the operation at the period I have mentioned ; nevertheless, I think, with Mr. Wilson, that the usual time of spring-shifting is decidedly preferable : because, at that season, the plants begin to push new leaves almost immediately, and sooner grow out of their murky covering ; while, for three or four months in winter, they make very little progress ; and the leaves, having their pores partially choked by the powder, are in some measure rendered incapable of performing their functions : and this, to a certain extent, must be injurious to the constitution of the plants. If the dressed plants stand near the glass in pits or low houses, they must be carefully shaded from powerful sunshine ; for the direct rays, acting upon the leaves, produce an effect similar to burning. In my case, no such precaution was necessary ; as the plants stood at a great distance from the roof of the house, and the vines afforded no inconsiderable shade. Unlike the mealy bug, the white scale never attacks the roots, nor buries itself in the soil, but wholly confines its ravages to the leaves, stem, and fruit : therefore, if more convenient, the plants can be quite as effectually dressed without being taken out of the pots, provided that enough of soil is removed to allow a free examination of the lower parts of the leaves, where the insects are generally most numerous.

If the brief directions I have laid down be strictly and perseveringly followed, the result will be the complete destruction of this most injurious enemy of the pine-apple : in fact, in this case, we can command success if we deserve it.

A few observations upon the natural history of the white scale, of which so very little seems to be known, may not be out of place here ; but they are offered rather with a view of calling the attention of others to this subject, than of enlightening the darkness in which it is involved. On referring to the fourth edition of the *Encyclopædia of Gardening*, I find it said that the white mealy crimson-tinged insect “is, by some, thought to be the same as the white scale.” How such a mistake could have originated, I cannot conceive ; for, in point of fact, a hog and an elephant resemble each other just as much as the white scale and the mealy bug. Happily, my acquaintance with the latter is very limited ; but I know enough of the former to enable me decidedly to deny their identity, having frequently witnessed pine-plants plentifully stocked with white scale, upon which not a single mealy bug was ever seen. If a white scale of the largest size be attentively examined, after having been detached from the plant, it will be found to cover a multitude of very minute brownish grains ; and these, undoubtedly, are the embryo insects. When dressing the plants, I have found myriads of these little grains firmly adhering to them, especially in the small furrows so

numerous on the back of the lower part of the leaves. In this stage of their existence, the insects are devoid of a scale; but, in some individuals, the rudiments of that envelope might be distinguished in the form of a white point scarcely visible to the naked eye. This point increases in size, until it spreads all over the creature it is destined to protect; which thus is enabled to feed and grow in security, until, in its turn, it produces another progeny of bloodsuckers. If the *Cócçi* are oviparous (which, I believe, is the opinion of entomologists), the eggs of this species are hatched while under the protection of the parent scale; for I am satisfied that they emerge endowed with the power of motion, having often observed them, in the same naked condition as when taken from beneath the parent, several inches distant from the place where they evidently were bred: but I never actually saw them move. Another species of *Cóccus*, the brown scale, often so troublesome in peach-houses, apparently is propagated precisely in the same manner; and these I have seen travel no inconsiderable distance immediately upon being released from their prison. There is no reason to believe that the young travellers, after being once comfortably settled, are seized with a farther desire to ramble: they then seem bent upon fulfilling the original commandment, "Go forth, increase, and multiply;" and this they do most literally.

As the females of many species of *Cóccus* firmly attach themselves to the plants upon which they live, it is reasonable to suppose that the male insects are capable of locomotion; otherwise, how could impregnation be effected? And, as in some degree strengthening this supposition, I give the following extract from my journal:— "Nov. 7. 1833. In cleaning the pine plants, I observed, for the first time, in the axils of the lower leaves, a small creeping insect, of a deep dull red colour, having numerous legs: it ran about nimbly, and occasionally leaped a distance of nearly half an inch. In general appearance, it is not unlike a monstrous acarus. Surely this insect has some connection with the white scale, being almost invariably found upon dirty plants; on some, two, three, or even four, were found, but generally only one. Immersion in the solution of soft soap destroyed these crawling things immediately. Can they be male *Cócçi*?"

The notion is erroneous that this species of *Cóccus* "infests the vine, the orange, and many plants besides the pine." So far as I have observed, it is confined to the pine plant; but, perhaps, the whole order *Bromeliaceæ* is liable to its attacks.

It is much to be regretted that naturalists are so remiss in investigating the habits of the insects which exercise such an injurious influence on a science so essential to human existence as horticulture. While the economy of the harmless members of this division of creation has been carefully studied, we know

comparatively nothing of those species with which it is our interest to be best acquainted; although the study of the latter would be equally gratifying to those who delight to "look through nature up to nature's God." It is hoped, then, that, if these remarks meet the eye of any entomologist who has the means of investigating the natural history of the gardener's and farmer's insect enemies, they will induce him to direct his attention to the subject.

North Riding of Yorkshire, Dec. 9. 1834.

ART. IX. *Floricultural and Botanical Notices of newly introduced Plants, and of Plants of Interest previously in our Gardens, supplementary to the latest Editions of the "Encyclopædia of Plants," and of the "Hortus Britannicus."*

Curtis's Botanical Magazine; in monthly numbers, each containing eight Plates; 3s. 6d. coloured, 3s. plain. Edited by Dr. Hooker, King's Professor of Botany in the University of Glasgow.

Edwards's Botanical Register; in monthly numbers, each containing eight plates; 4s. coloured, 3s. plain. Edited by Dr. Lindley, Professor of Botany in the London University.

Sweet's British Flower-Garden; in monthly numbers, each containing four plates; 3s. coloured, 2s. 3d. plain. Edited by David Don, Esq., Librarian to the Linnæan Society.

OF the Plants enumerated in p. 78, 79. 85. as extant in Collections in Belgium, the following are also extant in those of Britain: — *Caméllia Doncklæeri*, or *japónica Doncklæeri*, and *japónica candidissima* are at Mr. Knight's, and, no doubt, also at Messrs. Loddiges's, Messrs. Low and Co's, and Messrs. Rollison's. *Acácia paradóxa* Dec. is *A. undulàta* Bot. Reg.: it is a variety near *A. armàta* [Mr. Sweet had deemed it the same: it is placed as a synonyme in his *Hort. Brit.*]. *Lantàna multiflòra* is at Knight's: it is near *L. cròcea*, and handsome. *Vinca ròsea fòliis variegàtis* is in some collections in England. *Scóttia trapeziformis* must be *S. ténue* Bot. Reg. *Polýgala grácilis* Messrs. Loddiges have; and, I think, they call it also *P. longifòlia*: Mr. Knight has it. Its affinity is about between *P. myrtifòlia* and *P. grandiflòra*. *Rhododéndron Lówii* is at Mr. Knight's, and, no doubt, in the nurseries of others. Its corolla is white, the upper segments marked by a few dull scarlet spots: it is a most striking variety. *Lílium exímium* or *speciosíssimum* is a splendid variety: some deem it a variety of *L. longiflòrum*, but it is very distinct from this. *Anemòne arbòrea* is a synonyme of *A. capénsis*; a known, but rarely seen, species. I saw it, in 1834, at Messrs. Rollison's.

The following Plants, besides those mentioned in p. 78, 79. 85., have been introduced from Collections in Belgium to some of those in

England: — *Lilium lancifolium* var. *roseum*: this is a very ornamental variety. There is, too, another variety, I think, a white-flowered one. *Jonesia javanica*, a splendid climber for the stove. *Ixora coccinea* foliis variegatis. Several other plants from Belgian collections are in those of Kew, Horticultural Society and the London nurserymen.

Rhododendron reticulatum D. Don, from Japan, a very distinct species, is at Mr. Knight's. It is described in G. Don's *System of Botany and Gardening*, iii. 846. — *A Practitioner*.

PLANTS DICOTYLEDONOUS, POLYPETALOUS.

XLVII. *Onagrariæ*.

1183. *ÆNOTHERA*. [Texas 1770. S co Bot. reg. 3392
+10003 *sinuata* L. scalloped-leafed ✱ O or 2? s Y New Jersey, Virginia, Carolina, Georgia,
2 *minima* Hook. smallest O or $\frac{1}{2}$ in. au Y N. America 1825. S co

"The *Æ. minima* Ph. is now generally allowed to be a starved state of the present species [*sinuata*]." (*Bot. Mag.*, March.)

LXXVII. *Leguminosæ*.

1237. *SOPHORA* 10449 tomentosa.
2 smoother variety Hook. ✱ □ or 5 ... 1 Y Brazil ... C pl Bot. mag. 3390
S. occidentalis L.

The drawings figured and description published were prepared in Madeira, where it had been raised from Brazilian seed.

"The shining, dark green, handsome foliage of this plant, contrasting with its bright yellow spike-like panicles of flowers, renders it a very ornamental shrub. Flowers much like those of the Spanish broom, but rather paler; bright lemon-yellow, middle-sized, scentless." (*Bot. Mag.*, March.)

2072. *INDIGO-FERA*. [1816. C s.p Bot. reg. 1744
+18653 *atropurpurea* Ham. dark purple-corollaed ✱ □ or 5 au D.P.C Nepal (? hot valleys in)

From the collection of J. Bateman, Esq., Knypersley. Originally found in Nepal by Dr. Hamilton: Dr. Lindley thinks, probably in the hot valleys; because, in the stove, it is a handsome light green bush, richly ornamented by its numerous racemes of purple and crimson flowers; but in the open air, even on a south wall, and in such a summer and autumn as those of 1834, it languishes; producing its flowers in small quantities, and imperfectly. (*Bot. Reg.*, March.)

2837. *ACA-CIA*.
246762 *undulæfolia* Cun. waved-lfd. ✱ □ or 4 ap. in Y N. S. Wales 1824. S s.l.p Bot. mag. 3594
London's *Hort. Brit.*, No. 24689.

A shrub about 4 ft. high, much branched. Branches copiously clad with smooth, waved, alternately disposed, elliptical or ovate, phyllodia (leaves in common language); and crowded with axillary heads of flowers towards and to their very extremities. Heads of flowers on peduncles that are longer than the phyllodia, and display them beyond them. Flowers yellow. *A. undulæfolia* is figured from the Kew collection. (*Bot. Mag.*, March.)

PLANTS DICOTYLEDONOUS, MONOPETALOUS.

CLXXXVI. *Compósitæ*.

2362. *BE'LLIUM*.
crassifolium *Moris* thick-ldd ♀ Δ or $\frac{1}{2}$ jn W.Y Sardinia 1831. C p.l Sw.fl.gar.2.s.278.

This pretty little daisy is well suited to ornament rockwork, being quite hardy, and fond of a dry situation. (*British Flower-Garden*, March.) It is registered in our IX. 111.

CCXIV. *Acanthaceæ*.

1727. *RUE'LLIA*.
élégans *Hook.* elegant-flwd. ○ ? \square or 2? su Bt.B E. Indies 1834? S p.l Bot.mag.3389

Its stem erect, branched; leaves ovato-acuminate, serrate, pubescent. Flowers singly, or in threes, at the tips of the branchlets. Corolla salver-shaped, its limb of a very bright blue colour. "Its bright blue blossoms continue [to be successively produced] during great part of the summer, and render it an acceptable plant to our collections." (*Bot. Mag.*, March.)

PLANTS MONOCOTYLEDONOUS.

CCXXXVIII. *Amaryllidææ*.

974. *ZEPHYRA'NTHES*. [carinata male parent) Ro 1833? O r.m Bot. reg.1746
 8017. *spofforthiana* *Herbert* Spofforth ♀ Δ or $\frac{1}{2}$ my Hybrid (tubispatha female parent,

A hybrid production from seed of the tropical *Z. tubispatha*, fertilised by the pollen of the Mexican *Z. carinata*. *Z. tubispatha* has a white perianth, *Z. carinata* has a large red one; *Z. spofforthiana* has a rose-coloured one, lined with white, in the form of a star. "It is in every respect intermediate, having the leaves wider than those of *Z. tubispatha*; and distinguishable by the keel, which is conspicuous on the back of those of the male parent. The flower is also of intermediate dimensions and colour, resembling the male parent most in form and hue, and in the posture of the style and filaments." — *Herbert*.

"It will be necessary to expunge the name of *Z. grandiflora* from the catalogues, as it is a non-entity." — *Lindley*.

Mr. Herbert states that the *Z. grandiflora* *Lindl.* Bot. Reg., 902., has been made up, by mistakes, of the flower of *Z. carinata* and the leaves of a pinkish var. of *Z. striata*. (*Bot. Reg.*, March.)

CCXL. *Orchidææ*.

- 2530a *CYCNO'CHES* *Lindl.* SWANWORT. (*Kuknos*, a swan, *auchēn*, the neck; the column of the flower is long, and gracefully curved like the neck of a swan.) 20. 1. Sp. 1.—
Loddigèsii *Lindl.* Loddigès's \mathcal{E} \square fra 1 jn.jl G.Spot Surinam 1830. D p.r.w Bot.reg.1742

In foliage and habit a catasetum; but its raceme of flowers is produced from the side, and not the base, of the fleshy stem. The raceme is many-flowered and pendulous. The flowers are the largest that have yet been met with among orchideous plants, measuring not less than 5 in. from the tip of the back sepal to the point of the labellum. The sepals are green, brown at the tip, and obscurely spotted. The petals are of the same colour, but are less conspicuously spotted. Labellum white in the middle of its length, dingily yellow in the portion beyond, and the

whole labellum blotched with blood-coloured spots. Column long and curved, and comparable to the head and neck of a swan. The flowers are more singular than beautiful, but they compensate in fragrance for their want of brilliant colours: the purest odour of vanilla is exhaled by them when they have been open a short time, especially in the morning. Introduced from the woods of Surinam, to the collections of Messrs. Loddiges and the London Horticultural Society, by J. H. Lance, Esq. It has thriven treated as catasetums are, but seems to require the greatest heat that is ever obtained in a damp stove: it is disposed to increase itself pretty freely. (*Bot. Reg.*, March.)

2530. CATASETUM.
 †22657 pûrum Nees spotless-perianthéd £ [X] or 1 w Y.G. Brazil 1824. D p.r.w Bot.mag.3388
 C. inapértum Hook. Exot. Flor. 213.; C. semiapértum Loudon's *Hort. Brit.* No. 22657.

Dr. Hooker published, in 1826, this species by the name *C. inapértum*; Dr. Nees von Esenbeck had, in 1824, published it by the name *C. pûrum*. Dr. Hooker has now refigured, and in part described, the species, and adopted the prior name by Dr. Nees. Plants of it are in the botanic garden at Liverpool, and in the collection of C. Horsfall, Esq., of Liverpool. Upwards of twenty flowers are shown in the spike figured: "they are, perhaps, the smallest of the concave-lipped species; and of a uniform pale yellow-green colour, the inside of the lip only excepted, which is of a purplish-brown colour." (*Bot. Mag.*, March.)

2540. ONCIDIUM.
 †22687 triquetrum R. Br. triangular-lyd. £ [X] or ½ jlo W.P.G Jamaica [Bot. mag. 3393
 1793. D p.r.w

Has been long introduced, but is rare: there are plants of it in the collections of C. Horsfall, Esq., Liverpool, and Earl Fitzwilliam, at Wentworth. Scape from the centre of the leaves, terminated by a raceme of ten to twelve handsome but moderately sized flowers. Calyx purplish green. Petals white, tinged with pale green, and variously spotted with purple. (*Bot. Mag.*, March.)

CCXLVII. *Asphodèleæ*.

1023. TRITOMA.
 †485a Burchéllii Herbert Burchell's £ Δ or 1½? jn.jl Y.R C.G.H. 1816. O s.l Bot.reg.1745

Its leaves have smooth edges, like those of *T. média*: the margins of those of *T. uvària* are serrulate. The tubular perianths of its flowers are red while in the more youthful state, and progress into an orange yellow one: when full-grown, they are 1½ in. long. The flowers are densely disposed into a raceme 4 in. long. It is a beautiful perennial plant, and quite hardy; and produces offsets in plenty. At Spofforth, the residence of the Hon. and Rev. W. Herbert, it always flowers before or soon after midsummer: other tritomas flower late in the year. Mr. Herbert has named it (in Sweet's *Hortus Britannicus*) after Mr. Burchell, who introduced it from the Cape of Good Hope. (*Bot. Reg.*, March.)

REVIEWS.

ART. I. *A General System of Gardening and Botany, &c., founded upon Miller's "Gardener's Dictionary," and arranged according to the Natural System.* By George Don, F.L.S. Vol. III., 867 pages, with numerous woodcuts, 3l. 12s.; or in monthly parts, 6s. each. London, 1835. To be completed in 4 vols.

WE have noticed the two preceding volumes of this excellent work in VIII. 203. 698. It goes on with the same accuracy, with improved engravings, and with some important changes in the orders and tribes. Of the latter the most valuable is a new division of the genus *Erica*, an abstract of which we have given in X. 401., and which will be adopted in the next *Additional Supplement* to our *Hortus Britannicus*. There is one excellent feature in Mr. Don's work, to which the attention of the public ought to be particularly directed; and that is, the illustration given of most of the natural orders by the engravings of the dissected parts of plants.

The fourth volume, we understand, will be published in parts, as they are written, and not in an entire volume first, and in parts afterwards, as has hitherto been the case. We hope, when the work is completed, there will be a republication of the whole, in monthly parts, at 2s. 6d. or 5s. each, for the convenience of gardeners; for at present the work can only be recommended to their employers. To all who have any fondness for plants, and who wish to have a really good book in their library, we most strongly recommend this work.

ART. II. *Le Bon Jardinier, Almanach pour l'Année, 1835, &c.* Par A. Poiteau et Vilmoren. 12mo, 1046 pages, 1 plate. Paris, 1835.

THIS long and firmly established work continues to maintain its reputation. Prefixed to it is a list of the additions and corrections for the year 1835. These are chiefly plants which are already known in British gardens, or, at least, in the garden of the London Horticultural Society; and in this part of the work there are several references to the pages which are erroneous. Among the agricultural plants, are three new sorts of rye, a new variety of wheat, and a new early turnip, all of which, we believe, may be obtained from Mr. Charlwood and Mr. Wrench. *Plánera crenàta* is a new species of tree, belonging to the elm family, said to be of very rapid growth, and to produce a superior description of timber. It has been brought into notice by M. André Michaux, and, as we have no doubt it

will soon be procured by the London and Caledonian Horticultural Societies, and by Mr. Lawson of Edinburgh, we shall say nothing more about it at present. As Mr. Lawson and Mr. Charwood are in constant correspondence with M. Vilmorin (the editor of the *Bon Jardinier* for the economical department, which, of course, includes arboriculture), we recommend all our readers who wish to obtain, without delay, what is new in the horticultural, agricultural, and arboricultural world at Paris, to apply at once to them. Our giving this advice we consider will be of more real practical use than pages of tempting descriptions of articles, without telling where they are to be had.

In speaking of the advantages of metallic pipes for conducting smoke for heating hot-houses (p. xxvi.), a mistake is committed which ought to be speedily corrected: — “*Le métal étant un très mauvais conducteur de la chaleur* ;” and “*les tuyaux en terre cuite étant un bon conducteur de la chaleur*.” The reverse is the fact. The plate contains some designs for jets for fountains, which are curious, amusing, or pretty. These jets may be obtained through Mr. Rowley, Howland Street, Fitzroy Square, London.

ART. III. 1. *Address delivered before the Massachusetts Horticultural Society, on the Celebration of their First Anniversary, September 19. 1829.* By H. A. S. Dearborn. Pamphlet 8vo, 2d edit. Boston, 1833.

2. *The same for the Second Annual Festival, September, 1830.* By Zebedee Cook, Jun. Pamphlet 8vo. Boston, 1830.

3. *The same for the Third Annual Festival, September, 1831.* By Malthus A. Ward, M.D. Pamphlet 8vo. Boston, 1831.

THESE addresses are eloquent, and exceedingly well written. The first contains a general glance at the history of gardening, gleaned from the usual sources ; and an account of the origin of the Massachusetts Horticultural Society, with an account of the toasts given at their first anniversary dinner. It is delightful to see the independent and patriotic spirit displayed in these toasts, and in the explanatory sentences which accompanied the different epithets ; or the compliments which were paid to cultivators, male and female, whose healths were drunk ; to authors, editors, farmers, gardeners, amateurs, &c. At the end is a song, written for the occasion, by Mr. Finn, of the Tremont Theatre.

The second address contains a general view of the state of gardening, including landscape-gardening and rural architecture, in the neighbourhood of Boston ; with a notice of the promised establishment of a public cemetery. Among the toasts are some interesting and curious combinations of horticulture and

politics; and the concluding song is by our correspondent, Mr. G. T. Fessenden, the pervading sentiment of which is, that "Culture makes the man." A list of the members is given, which is very numerous. Among the honorary members there is one British peer (the Earl of Roseberry, president of the Caledonian Horticultural Society).

The third address remarks on the utility of horticulture, and the natural love of the country and of plants common to civilised man. The period for the study of picturesque or landscape-gardening is said to be now dawning on America. Among the toasts is, "*The Garden of Eden*—lost to mankind by the curiosity of woman; regained for womankind by horticultural societies." A better toast is, "*Cultivation*—the only process for obtaining good fruit, whether from men or trees." The song is by Fessenden, and is in praise of industry. We have received three other addresses, which we shall notice in a future Number.

ART. IV. *Report on Lawson's Agricultural Museum.* From the Quarterly Journal of Agriculture, vol. v.

THE interest, we are informed, excited "by the exhibition of agricultural seeds, roots, and plants, at the annual shows of the Highland and Agricultural Society of Scotland, together with the beneficial results of the establishment of the Messrs. Drummond at Stirling, suggested to Mr. Lawson the propriety of exhibiting a collection of a similar nature in Edinburgh.

"He accordingly fitted up apartments adjoining to his premises in Hunter's Square, and, having stocked them with suitable materials, procured by himself, or supplied by the liberality of his friends, and of persons interested in agricultural pursuits, opened them to the public in November, 1833. In the course of the season the collection was inspected by upwards of 2000 individuals, who thus had an opportunity of seeing the various productions of the country brought together. This year the museum exhibits a tasteful and beautiful appearance, much superior to the last.

"It is obvious that an agricultural museum, open to all who may be desirous of visiting it, must prove of considerable advantage to cultivators. An opportunity is thus afforded of bringing into notice new and interesting articles; the various objects which interest the agriculturist, whether the produce of the soil, or the implements by means of which it is cultivated, may be seen and compared; the value of different sorts of grain, roots, and herbage determined; and improvements of various kinds suggested. The beneficial effects of such exhibitions have been exemplified in Edinburgh, by the interest produced by the collection made by Professor Low for his class in the University; and it is only until his museum shall be placed in a condition for public inspection that the collection in Hunter's Square will likely continue to be exhibited."

The first division is cereal grasses; and the wheats include a great many sorts, among which are eight French varieties, from

Vilmorin and Co. of Paris. Among the ryes are also four sorts from the same house. The barleys and ryes were most numerous, and there were even a good many sorts of Indian corn, rice, and millet. We need not go through the other agricultural plants, because, unless we went into details, we should only have to repeat, under each head, our admiration at the number and excellence of the specimens. A variety of garden productions were also exhibited, including a great many sorts of apples, some pears, grapes, &c. Perhaps the most numerous collection of all was that of grasses, on which subject Mr. Lawson is the author of some excellent papers in the *Quarterly Journal of Agriculture*. Under the head of forest trees we find that specimens of no fewer than twenty-four sorts of pine were exhibited, fourteen firs, three larches, the common and the Indian cedar, the Chinese pine (*Cunninghāmia sinensis* [?]); and *Araucária brasiliàna*, *Altíngia excélsa*, and *Al. Cunninghami* are said, when grown in the open air in the climate of Edinburgh, to require a slight covering in severe winters. We are equally gratified and astonished to find that they can be grown in the open air at all. There are several facts in this part of Mr. Lawson's *Report* which will be useful to us when treating on the pine in our *Arboretum Britannicum*. In Mr. Lawson's nursery, we believe, there is one of the most complete arboretums in the neighbourhood of Edinburgh. We should occupy more space with this tract, had it not been already widely circulated in the *Quarterly Journal of Agriculture*.

ART. V. *A Tour through North America, together with a Comprehensive View of the Canadas and the United States, as adapted for Agricultural Emigration.* By Patrick Shirreff, Farmer, Mungoswells, East Lothian. 8vo. Edinburgh, 1835.

FOR a gardener or farmer, intending to emigrate to America, this appears to us by far the best book that has hitherto been published on the subject. It consists of two parts: first, a personal narrative of the author's travels; and, secondly, a comparative view of the Canadas and the United States, as adapted for agricultural emigration.

As much of the interest which we take in the personal narrative of a traveller depends on the knowledge which we have previously formed of his habits of thinking, it is satisfactory to be able to form an opinion of Mr. Shirreff's mind from his preface. There are passages in this which prove him to be of a truly philosophic turn of mind, and we therefore accompany him in his tour with confidence and delight. It has been reported that Mr. Shirreff was appointed by a party of East Lothian

farmers to examine the Canadas and the United States, &c., with a view to their emigration; but Mr. Shirreff informs us that he had no other object than that of examining the country with a view to the emigration of a younger brother. "My acquaintance with agriculture," he says, "enabled me to judge of American farming without relying upon the opinion of others; and, while listening patiently to much that was told me, I drew conclusions only from what I saw. In measuring the advantages of different parts of the country by the standards of nature, and the reward of agricultural industry by produce, I hope to have departed from custom without having been led into error. Nature is the most general and invariable of agricultural tests." (Preface, p. ii.)

It would occupy more space than we can spare, to give an outline of our author's tour; though, to every countryman, and especially to every Scotsman, it cannot fail to be of extraordinary interest. We shall therefore give only a few extracts from it, first briefly noticing the general result of the whole: this is, that the author prefers the United States to the Canadas; the neighbourhood of the large towns for those who carry with them no capital; and the state of Illinois for those who have capital, and who intend to settle in America as farmers. Mr. Shirreff has given convincing reasons for his preference of the United States. The Canada Company appears to be a vile monopoly, and that country to be under a wretched system of government.

There is very little inducement held out to gardeners to emigrate either to the Canadas or to the United States with a view to being employed as such; though the culture of vegetables in the neighbourhood of large towns is stated to be the most profitable kind of agriculture.

"An emigrant will not always find agricultural employment to the west of the Alleghanies, from the low price of farm produce; but there is always a demand for labour in towns and villages, at high wages, and he need not remain idle if he is disposed to work. An industrious and sober man must rapidly accumulate wealth by working for hire; and many, perhaps, err by purchasing land instead of continuing to work under the direction of others. On leaving New York, a gardener, who was working at Haddington when I left Scotland, gave me 10*l.* sterling, which he had saved since his arrival in America, to enable his wife and family to reach him. A young man, whom I had often employed at spade-work on Mungoswells farm at 1*s.* 6*d.* a day, without board, was earning, by sawing stones at Cincinnati, 4*s.* 3*d.* a day with board."

Our readers who have read Mr. Gordon's description of Hyde Park (VIII. 282.), will be surprised at the following:—

"Hyde Park, the seat of Dr. Hosack, is the most celebrated in America, and which Mr. Stuart describes as being "embellished as a fine residence and fine grounds in England." The house is situated some hundreds of feet above the level of, and at a considerable distance from, the Hudson, the intervening

grounds being finely undulating. In front of the house there is a road, leading from the landing-place on the river, along a small stream, over which there is an elegant wooden bridge, and several artificial cascades have been formed in its channel. The house is composed of wood, as well as the offices and lodges, painted white, and are very neat of their kind. The conservatory had been dismantled a few days before our arrival, by placing the plants in the open air. The collection seemed extensive and well kept. The flower-garden is small, the walks limited, and both destitute of beauty. I am aware that most of the evergreens which impart loveliness to the residences in Britain cannot withstand the rigours of an American winter; but this circumstance is no excuse for the nakedness of Hyde Park walks, the aid of many native plants having been disregarded. The matchless beauties of the situation have not only been frequently neglected, but destroyed by stiff, formal, naked walks, and the erection of temples resembling meat-safes, without a climbing plant, which the country produces in endless variety, to hide their deformity, and harmonise them with the surrounding scene. In short, while I greatly admired the situation of Hyde Park, I do not recollect having seen a celebrated place where nature had done so much, and man so little, to render it beautiful. The embellishments at Hyde Park, contrasted with those met with every day in Britain, place American landscape-gardening immeasurably behind, if it can be said to exist."

(To be continued.)

ART. VI. *Royle's Illustrations of the Botany and other Branches of the Natural History of the Himalayan Mountains, and of the Flora of Cashmere, &c.* Part V., containing from p. 137. to p. 176. of the Illustrations of the Natural Orders; with nine beautifully coloured plates of plants, and one plate of fossil bones, teeth, and shells. Folio. London, 1835. 20s.

IN turning over the leaves of this work, we cannot help remarking on the dry and comparatively uninteresting book which Mr. Royle could not have avoided producing, had he followed an artificial arrangement of the subjects it contains; whereas, by throwing his genera into natural groups, and generalising on these groups with reference to similar climates in every part of the earth, he has produced one of the most interesting botanical works with which we are acquainted; and one which not only instructs us in the botany and other branches of natural history of the Himalayan Mountains, but in natural history, and especially botany, generally. Such is the excellence which an author may attain by a superior degree of intelligence, much assiduous industry, and an enthusiastic devotion to the subject.

The order Sapindaceæ is concluded in the present number. The *Euphòria Lâchi* "is one of the most delicious and most delicate-flavoured of all the fruits of the East;" and, though a native of China, succeeds in most parts of India. Being deciduous, we cannot help thinking that it might stand the open air in Britain, at least, in the south of England, and Ireland. It is, says Mr. Royle, "one of the most ornamental of trees." See p. 73.

Millingtoniæ contains several timber trees, some species of which extend to a considerable elevation in the Himalayas, and may, therefore, in time, be found in our parks and pleasure-grounds.

Meliæ contains a number of trees which grow on the Himalayas, the deciduous species of which would probably endure the open air, in the south of England and Ireland, as well as the common *Melia Azedarach*.

Ampelidæ.—The observations on this order are of very great interest; and, for the benefit of the young gardener, we make a very long extract from them. The order includes the two genera *Ampelopsis* and *Vitis*; the latter found in the equinoctial parts both of the old and new world. By far the most interesting species is the grape vine.

“But the grape vine is alone of any importance for the utility of its products. The sap was at one time used in medicine, and the juice of the leaves, particularly of a variety in which they are red, considered astringent. Verjuice, expressed from unripe grapes, is well known for its acidity and use in making syrups, &c. Lieut. Burnes mentions that, in Caubul, they use grape powder, obtained by drying and powdering the unripe fruit, as a pleasant acid. When ripe, it is every where valued as a fruit, either fresh, or in the state of raisins, and, of one variety, as currants. The juice of the ripe fruit, called *must*, is useful as an agreeable beverage, from containing sugar. By fermentation, other valuable products are procured, as wine, alcohol, and vinegar; while the lees yield tartar or impure cream of tartar, from which tartaric acid may be obtained: an oil is sometimes extracted from the seeds, and even the ashes are considered useful in medicine, from containing, like that of so many other woods, salts of potass.

“The grape vine being a plant of so much value and importance, its distribution is an interesting subject of enquiry, though there is little prospect of its becoming in India of greater value than as affording an agreeable fruit; though this is of sufficient importance to render highly desirable the introduction and trial of different and superior kinds from Europe. The native country of the vine seems now to be better ascertained than that of many other as extensively cultivated plants. Bieberstein, in his *Flora Tauro-Caucasica* (i. p. 174.) states—‘Nusquam non præter alpestris, per omnem de qua sermonem facimus regionem sponte in sylvis atque dumetis nascitur, et altissimas quandoque arbores ascendens, totas quantas occupat.’ [Throughout the whole country of which we speak, except in the alpine districts, it is found growing in the woods and thickets, and sometimes climbing the loftiest trees.] The author of the *Mukhzun-ool-udwieh*, who was an inhabitant of the district, describes the vine as found both wild and in gardens at Tinkaboon, in Deilim, about lat. 37°, on the southern shores of the Caspian, and that it is there called *dewaz*. Humboldt, also, in his *Géographie des Plantes* (p. 26.) mentions that the vine ‘grows wild on the coasts of the Caspian Sea, in Armenia, and in Caramania. The species of *Vitis* which are found wild in North America, and which gave the name of Wineland to the first part of the new continent which Europeans discovered, are very different from our *Vitis vinifera*.’ These, as we learn from Pursh, are *Vitis Labrusca*, called fox-grape; *V. æstivalis*, summer grape; and *V. cordifolia*, winter grape. From the sacred writings we know that the grape was cultivated in Asia in the earliest periods. M. Bové, the latest scientific traveller, informs us (*Ann. des Sc. Nat.*, 1834, p. 172.) that it is still cultivated, and a good wine made in the vicinity of Jerusalem; but that in Egypt he found wine made only at Medinet-el-Fayoum (l. c., p. 76.), which is in lat. 29° 20′. ‘From Asia,’ Humboldt continues,

'it passed into Greece, and thence into Sicily. The Phocæans carried it into the south of France; the Romans planted it on the banks of the Rhine;' and we have it now extending to 51° , or even 52° , in England, where it ripens well, as in the present fine season, in the open air; and wine is made in a few places in Devonshire. Southward, the vine extends as far as 12° of northern latitude; as we learn from Dr. Ainslie (*Ind. Mat. Med.*, i. p. 156.) that 'the French are particularly successful in cultivating the grape at Pondicherry, notwithstanding the great heat of the Carnatic.' The illustrious Humboldt, in his *Proleg. de Distrib. Geograph. Plant.* (p. 159.), where, from the examination of a multitude of facts, he has deduced the requisites for the successful cultivation of many plants, has observed, that 'the vine in Europe yields a generous and excellent wine between the latitudes of 36° and 48° , where the mean annual temperature is from 62° to 50° , or even $47^{\circ} 5'$, provided that of winter is not below 38° , nor that of summer below 66° or 68° . These conditions are fulfilled on the sea coast as high as lat. 47° , in the interior as high as lat. 50° , and in North America only as high as lat. 40° . The vine may therefore be cultivated for wine in a belt of from 12° to 15° of latitude in breadth on both sides of the line; though to a much greater extent if required for its fruit only: but for both purposes, in a narrower space in the new than in the old world. Farther north than 48° of latitude, grapes do not generally secrete sufficient saccharine matter to undergo a proper vinous fermentation; and farther south than 35° (or 32° , in an insular situation like Madeira), though they are both sweet and high flavoured, the temperature is so great that the juice passes rapidly into the acetous fermentation; and therefore the grapes of the most southern parts of Europe are more frequently dried as raisins than converted into wine. The climate of India is such as to exclude it from benefiting either by preserving the grape or converting it into wine; though, in the north-western provinces, the vines thrive well and bear abundantly. They flower in February, and ripen the fruit (which is well, though, perhaps, not so delicately, flavoured as in more temperate climates) about the middle of June, or about the time the vine is said to flower in Caucasus: at this time the mean temperature, being about 90° , is evidently much too great to allow of a slow and gradual vinous fermentation; while the accession of the rainy season immediately afterwards produces so great a degree of moisture as to render it impossible to dry the grapes as raisins, unless this could be effected in ovens, after being plunged in boiling water, as is done in some parts of Europe. It might, perhaps, be practicable even to make wine by growing the grapes at the foot of the mountains, where free from jungles, as in the country beyond the Jumna, and conveying them to a moderate temperature on the mountain's side. A brewery has been established in a situation where the mean temperature in the houses hardly ever varied from 60° in the warm weather, and the distance was so inconsiderable, that it was thought preferable to bring the barley from the plains rather than use that which was grown on the spot: The Deyra Doon would be a particularly favourable situation; but at present there is too much uncleared jungle, and the climate too moist to ripen the grape properly in the short season from the middle of March to the middle of June. The greatest pains were taken in their cultivation, but without success, by the Hon. Mr. Shore, while resident there.

"But it is observed, that when the warmth of a low latitude is compensated for by elevation, or a barrier is opposed to the inundating influence of the rainy season, grapes are ripened as fruit, dried as raisins, and converted into wine. Thus, in Kunawur, between N. lat. 31° and 32° , or nearly that of Madeira, where elevation produces the same moderation of temperature, that is, in the latter, the consequence of its insular situation, we have luxuriant vineyards between 9000 ft. and 10,000 ft. of elevation, with grapes of delicious flavour, which the moderation of temperature in September allows of being converted into wine, and the dryness to be preserved as raisins.

Two degrees farther north, or in the Valley of Cashmere, at an elevation of 5500 ft., we have grapes both excellent and plentiful, as we learn from both Mr. Foster and Mr. Moorcroft. The latter says, that 'many thousands of acres skirting the foot of the hills are covered with apple and pear trees in full bearing, but without owners.' (*Journ. of Geog. Society*, i. p. 241. and 253.) My plant collectors expressed their admiration by describing the fruit trees as forming a perfect jungle in Cashmere. The moderation of temperature, with the existence of moisture, has been mentioned at p. 27. as accounting for the magnitude attained by many species of European genera. This will also explain the great size of the vines, which, Mr. Moorcroft informs us, 'scales the summit of the poplar,' as well as the want of a fine flavour, observed in the grapes brought to India, packed in layers of cotton. At Khoten, also, the vine is described by Mr. Moorcroft as being very productive. The different kinds of raisins called *monukka*, *kishmish*, and *bedana*, are brought chiefly from Istaulik. At Cabool, nearly in the same latitude, but more to the eastward than Cashmere, and elevated 6000 ft., the grapes are described by Lieut. Burnes to be so plentiful, as to be given for three months to cattle. They are also abundant at Bokhara, and in both places are converted into wine, and dried as raisins. Astrakhan, in 46° of N. latitude, seems to be the most northern point in Asia where the grape thrives; and there the vineyards are described as being numerous. Every traveller mentions the grapes and wine of Persia. Dr. Ainslie says, it was from thence, as well as from the banks of the Rhine, that grape plants were originally sent to the Cape of Good Hope, and that some of these from Persia now produce the red and white Constantia. This is generally considered the only good wine from that settlement. Dr. Ainslie thinks highly of the Madeira made from the *groene druif*; but Pontac is also a good and very sound wine. The Persians, it may be added, claim the discovery of wine, and call it *zuhr-i-khoosh*, or the delightful poison.

"It may not be uninteresting to mention, that in the northern provinces of India, where we have, at one season, a climate analogous to that of European latitudes, and, at another, a degree of heat which is never attained even within the tropics, the only wines which are relished, after the stimulus of a single glass of Madeira, are the light clarets of France, or the hock of Germany; while, in the cold weather, port is frequently drunk, though never seen at any other season of the year, unless sometimes during the moisture of a damp situation in the rains; showing that climate influences the taste of northern nations for the stronger wines, rather than the habit one regrets to see ascribed to the English in a work generally of much research, published only during the present year: — 'The English seldom drink any but spirituous wines, because they find wines without brandy in them too weak.' — *Dict. de Mat. Med.*, tom. vi. p. 935. Paris, 1834."

(To be continued.)

ART. VII. *Catalogue of Works on Gardening, Agriculture, Botany, Rural Architecture, &c., lately published, with some Account of those considered the most interesting.*

THE Mirror of Literature, Amusement, and Instruction, &c.
Vol. XXIV. London, 1834. 5s. 6d. Published also in weekly Numbers, at 2d. each.

We have before, in IX. 450., recommended this work as remarkably cheap, and as brimful of entertainment and instruction. We have only to repeat our praise, and say that it contains excellent miscellaneous reading for the young gardener.

Verhandlungen der k. k. Landwirthschafts-Gesellschaft in Wien, &c. Transactions of the Imperial and Royal Agricultural Society of Vienna, &c. New Series, Vol. I. and Part I. of Vol. II. 8vo. Vienna, 1833 and 1834.

The only article of interest in the work before us is one by Baron Jacquin on the starch of the cereal grasses.

Allgemeine Botanische Zeitung. The General Botanical Gazette. No. I. 12mo. Ratisbon, Jan. 7. 1834.

A periodical of 16 pages, wholly occupied with an article on the flora of the East Indies, by Dr. Martius of Munich. This view, though short, is exceedingly comprehensive: its author seems to have referred to all the works extant on the subject; and, at the conclusion, he gives an enumeration of the species belonging to each natural order. That of Leguminosæ contains nearly double the number of species (759) of any other order of flowering plants. The order next numerous is Compositæ (421); and, after that, Acanthaceæ (297); then Rubiaceæ (260), Cyperaceæ (234), Orchideæ (221), Labiatae (199), Verbenaceæ (166), Ampelideæ (168), Apocýneæ (146), Malvaceæ (158), Myrtaceæ (157), Convolvulaceæ (126), Scrophularineæ (119), and Gramineæ (121). Of flowerless plants, the greatest number belong to Fílices (483) and Músci (112). The total number of flowerless plants is only 689; while that of flowering plants is nearly 1000. Due honour is paid to Dr. Wallich, and to Mr. Royle.

ART. VIII. *Literary Notices.*

THE Architectural Magazine, vol. i., price 16s. 6d., was published on the 1st of January last.

The Arboretum Britannicum, No. i., with sixteen 8vo plates, and sixteen pages of letterpress; No. ii., with eight plates, and thirty-two pages of letterpress; and No. iii. with twelve plates, and thirty-two pages of letterpress, were published on February 1.: and No. iv. with sixteen plates, and eight pages of letterpress, will appear on April 1.; price 2s. 6d. each. The work will be completed in twenty-four numbers, and will contain upwards of 600 pages of letterpress, and above 300 8vo plates, besides woodcuts; forming two handsome volumes 8vo, viz., one of letterpress, and one of plates. Price 3l.

A Treatise on Botany, by, it is understood, Dr. Lindley, is in course of publication by the Society for the Diffusion of Useful Knowledge. Two numbers have been published, Nos. 179. and 181., 6d. each, in which "Structural Botany" is treated of; and from which we learn that "Physiological Botany, Descriptive Botany, and Systematic Botany," additional divisions of the subject, are to be treated of in succession. The work is likely to

be one most deserving of purchase by gardeners, from both the excellence and cheapness of it. We cannot say how long it may be before the remaining numbers are published, but think the two which are published, on "Structural Botany," too important to our friends to remain unnotified to them until the rest shall have been published. Eighty woodcuts are given in the two numbers on "Structural Botany."

A Treatise on the Acacia Tree (Robinia), &c., by W. Withers of Holt, Norfolk; to which will be added, *Observations on Planting and Pruning*, by John Sanders, is in preparation. It will form one volume, 8vo, price 1l.

A Complete Account of the Hop, with an Essay on Blight in Corn Crops, by E. J. Lance, will shortly be published, price 3s. 6d.

MISCELLANEOUS INTELLIGENCE.

ART. I. General Notices.

THE Economy of the little grey Moth (Yponomeuta padella).—No insect makes greater havoc of our whitethorn hedges and apple trees [and various other trees], than the little grey moth (*Yponomeuta padella Latreille*). Wherever the caterpillars of this insect seat themselves, they appear to be congregated in vast numbers: every spray is covered. The leaves vanish before them; so that by midsummer, not only single trees, but whole orchards, and entire hedges from end to end, are completely defoliated. Their depredations cease when their change into the chrysalis [pupa] state takes place, leaving the trees covered with the webs (or, rather, silky threads), by which they transport [the caterpillars had transported] themselves from place to place; and every leaf shrivelled, as if scorched by fire. — *J. Main*, in IX. 570, 571.

These effects are familiarly known to many, but not so, or less so, have hitherto been the following points in the insect's economy: the time and place in which the mother moth deposits her eggs, the time at which the caterpillars are hatched from the eggs, and their course of feeding from the time of being hatched to the time at which the effects of their ravages command our observation of them. These points have been elucidated by the investigations of the late Mr. E. W. Lewis, and by his brother, Mr. R. H. Lewis. From a communication on this subject by the latter gentleman, published in the *Transactions of the Entomological Society of London*, we quote the following particulars:—"The mother moth deposits her eggs in the preceding year, generally on the small twigs, and chiefly on their under surface, in a circular patch about $1\frac{1}{2}$ line in diameter, which she covers over with a strong gluten, at first of a pale yellow, but which is afterwards, by the action of the atmosphere and rain, changed to a dark brown, very closely resembling the bark of the tree, and is then very difficult to be distinguished from it. The eggs hatch early in the autumn (the exact time I did not ascertain: I found them hatched the beginning of October), and the larvæ remain in confinement during the whole winter, under the covering which is formed by the gluten and egg-shells. If we now raise up one of these excrescences, we shall find it hollow inside, and containing two dozen or more larvæ, of a pale yellow colour, with the head and a corneous plate on the first segment black, and about a half or two thirds of a line long. In these receptacles they increase somewhat in size: the bark of the tree beneath is moist and green, but whether, or in what manner, they derive nourishment from it I am at a loss to say.

“ About the time that the trees are coming into leaf they make their escape : but they do not now commence spinning webs ; they cannot yet eat the epidermis of the leaves, and they require some protection from the cold and rain, which their tender frames are not yet fitted to endure ; to effect which they *mine* into the leaves, eating the parenchyma [cellular tissue] only, and leaving the epidermis untouched.

“ Having acquired sufficient strength to withstand the vicissitudes of the atmosphere, and to devour the epidermis of the leaves, they make their way out ; and the anxious gardener, who has hitherto only observed the brownness of the leaves, caused by the mining, but which is by him attributed to the withering blast of an easterly wind, is astounded when he perceives myriads of caterpillars swarming on the trees, and proceeding with alarming rapidity in their devastating course. The fact of their mining sufficiently explains the reason of their sudden appearance : it shows how one day not a single caterpillar may be visible on the trees, and the next they may be swarming with larvæ of so large a size as to rebut the idea of their having been recently hatched.” Besides, their latter habit of feeding on the leaves externally is so little like their former one of feeding on them internally, that any one who had not satisfied himself by examination that both habits are proper to the same caterpillars would scarcely suppose this to be the case. While the caterpillars are within the leaves, they are “ of a yellowish colour, though they become darker at each change of skin. It is in this state that I would recommend their destruction, by gathering and burning every leaf which by its outward appearance betrays the internal ravages. Their nests are so difficult to discover, that searching for them seems entirely out of the question, and I am much afraid that, could any wash be conveniently applied to the small twigs, whatever might be sufficiently powerful to penetrate the glutinous covering would at the same time injure the tree.

“ The future proceedings of the insects, while they cover the trees with their webs, have been so well described by others, and are altogether so well known, as to need no description here.

“ Having satiated themselves with the growing hopes of the gardener, who endeavours, but in vain, to stop their destructive career, they prepare for the pupa state by spinning strong white cocoons of an ellipsoidal form. In a short time they emerge from their pupæ, and may be seen in the evening, but more particularly in the early morning, flying by hundreds round those devoted trees which are, in the following year, to be the scene of similar ravages, unless circumstances for which we cannot account should prevent their multiplication.”

ART. II. *Foreign Notices.*

FRANCE.

A CATALOGUE of the Plants cultivated by J. Sisley-Vandael, horticulteur-commissionaire, Rue de Vaugirard, Paris, has been sent us by its author. The prices are given for 1835. This *Catalogue* is chiefly rich in roses. The other hardy trees and shrubs only include eight genera.

Rambouillet, Dec. 23. 1834. — Though there were formerly very accurate accounts kept of the trees planted in the gardens of Rambouillet, with all desirable details respecting them ; yet, as there is no sort of classification of these papers in the archives of the demesne, it would require a long search to find them. Before undertaking this search, I will give you some information, which I have obtained from two old gardeners belonging to the place, thinking it will be satisfactory as far as it goes.

The great park at Rambouillet contains about 2200 English acres, including the dairy grounds ; but not those known as the *Jardin Anglais*, the parterre, the canal, and other dependencies more particularly belonging to the château. These grounds contain nearly 150 acres. The great park was planted in 1704 or 1705. Though Le Nôtre died about that time, it is supposed to have been commenced by him, or, at least, to have been laid out

and planted from his designs. You have seen those immense avenues of elms which were so magnificent in this park about forty years ago. Some of these avenues still exist, but the trees in them are dying; and not half remain of those which were 12 French feet and upwards in circumference. The clayey and sandy soil of Rambouillet has probably occasioned this destruction.

There are in these gardens a great number of deciduous cypresses, which were brought to Rambouillet about 1789, and planted on the borders of the English river: of which the greater part were taken up about 1808 or 1809, to be planted in an avenue in the dairy grounds; and the rest were transplanted into the parterre, where they form an avenue of forty trees arranged in two rows. These trees are all very beautiful; some of them have trunks 4 ft. or 5 ft. in circumference; and many of them have excrescences on their roots which protrude more than a foot above the surface of the ground. There is a still larger deciduous cypress, near the door of the cottage in the English garden, which is supposed to have been planted about 1738, shortly after the formation of the gardens. This tree has twice had its leading shoot broken.

There is a beautiful plantation of scarlet oaks (*chênes rouges*) in the English garden, near the hermitage; but they have been planted too close together, and want thinning. They were planted in 1787 or 1788. Some of the scarlet oaks were transplanted about thirty years ago; and there are several very fine specimens near the farm.

There are two cedars of Lebanon: one of which stands in the court of the old pheasantry, and has had its leader broken; the other is in a plantation of pines near the farm buildings. There is also a live oak (*Quercus virens*) in the same plantation, which is 2 ft. in circumference; and, in the garden near the dairy, are some red cedars, and some groups of the *Quercus fastigiata*.

In the English garden there are several fine groups of tulip trees, catalpas, planes, Judas trees, sumach, different kinds of maples, and other commoner trees; and in the dairy garden there are two liquidambars, several groups of *Myrica cerifera*, &c. &c. The plantation of pines is composed of different species mingled together purposely, without order; though all the trees were not sown, but planted (*plantés en panière*). Among these are the Scotch and Weymouth pines, the *Pinus maritima* and *P. Laricio*, the larch, and the silver and spruce firs. There are also some fine old specimens of Weymouth pines in the English garden, near the hermitage. All these trees were planted about 1787, and they are now generally about 3 ft. or 4 ft. in circumference. Most of them are handsome and vigorous; except in the more elevated situations, where they are beginning to decay. — *Bourgeois*.

Jardin de Fromont, à Ris, près Paris, Dec. 29. 1834. — Never in France was the taste for fine trees, and, in general, for what I call *la belle culture* (as analogous to the *beaux arts*), in such a low state as it is at present. Our horticulture is languishing. The sale of house plants is altogether at an end. There is no longer any pleasure taken in fine flowers and in beautiful trees. . . . Combe-la-Ville is sold to a gentleman who has no taste for plants; and the Baron Pappenheim's gardener, Cappes, with whom you were so much pleased, was so shocked when he saw the trees neglected, that he has left his place. A list of these trees, however, and their dimensions, is preparing for you, from authentic documents, by the baron. — *B. P. and S. B.*

GERMANY.

Flotbeck Nurseries, Hamburgh, Feb. 10. 1835. — You are, perhaps, aware that my collection of hardy trees and shrubs is considered the most extensive in this country. I have been particularly fortunate in naturalising or acclimatising a great number of exotic species; and, I believe, there are many in my collections not at all, or at least very little, known in the British gardens. At any rate, I received this impression last summer, when I travelled for several months through England and Scotland, for the sole purpose of visiting your collections.

I have had the *A'bies Douglàsii*, these three years, growing beautifully out of doors, quite hardy; *Pinus Lambertiana*, also out of doors; and, during the

present winter, *P. longifolia* and *palustris*. Well worth taking notice of are the following : — *Cratægus pterifolia*, the most graceful of them all, and quite new, it is from North America ; *Pterocarya caucásica*, a beautiful tree, and hardy ; *Quercus mongólica*, hardy ; *Corylus heterophylla*, a handsome shrub, and hardy ; *Pópulus salicifolia*, new ; *Plátanus digitata*, fine tree ; *Amýgdalus tomentósula*, a rapidly-growing tree, and very ornamental ; *A'bies cærúlea* ; the *Pópulus* of the Prince d'Arenberg, a new species or variety of the silver poplar, growing much more rapidly than the old one. — *John Booth*.

AMERICA.

The Catalogue of Vegetable, Herb, Flower, Tree, and Grass Seeds ; bulbous and tuberous flower roots ; ornamental green-house shrubs ; and herbaceous perennial flowering plants ; agricultural, horticultural, and botanical books, &c., on sale by Hovey and Co. of Boston, has been sent us. It is astonishingly complete, occupying 50 pages very closely printed, and in a very small type. It is gratifying to find that there is already a demand in America for such a number of articles of elegance and luxury.

Ornamental Tree Society. — The *Middlesex Whig* contains a report of the Concord Ornamental Tree Society ; the objects of which are to set out trees in public squares, avenues, and roads. We deem associations of this kind of very great usefulness. (*New York Farmer and American Gardener's Magazine*.)

A Species of Elm, called the Slippery or Red Elm, produces, in America, a farinaceous substance said to be remarkably nutritious, and palatable for debilitated and sick persons. (*Ibid*.)

The Date Palm Tree has been planted with success in Georgia. A branch has lately been exhibited in Savannah, containing about 200 dates of a rich golden colour. (*Ibid*.)

Botanical Tour. — Among the passengers in the South America, which sailed from New York on Dec. 1., for Liverpool, were Messrs. Brown and Macnab. These gentlemen arrived at New York in June last, on a botanical tour through the United States and Canada, under the auspices of the Royal Botanic Garden of Edinburgh. They have, during this short period, explored an immense tract of country ; and have taken back with them several hundred new plants, to add to that already splendid establishment. They express themselves delighted with our Eden-like wilderness, glorious-decked-margin rivers, and magnificent lakes. They have, in pursuance of their object, taken up their abode in dreary forests and marshes, and paddled their canoe with the Indians on Lake Huron. These scientific expeditions having matters of pure taste in view, it is to be hoped, will be often repeated ; as there is, perhaps, no region on earth so full of interest to the lover of botanical research as North America ; whose noble lakes, rivers, and prairies are, from the month of May till September, perfect gardens of the most beautiful flowers and shrubs ; and which, for the most part, succeed admirably when transplanted into the well-kept gardens of Europe. (*Ibid*.) Messrs. Brown and Macnab have since arrived in Scotland ; and an interesting extract from Mr. Macnab's journal is given in the *Quarterly Journal of Agriculture* for March, v. 594. From this specimen, which is rich in its remarks on trees, it is much to be desired that the entire journal should be published, as it would do for the gardener and forester what Mr. Shirreff's tour (see p. 197.) has done for the farmer.

ART. III. Domestic Notices.

ENGLAND.

AUSTRALIAN Trees at Coed Ithil, near Chepstow, the residence of Capt. R. H. Fleming, R. N. The blue gum (*Eucalyptus*) stands frost as well, or, indeed, rather better, than the common laurel. It has been planted three

years, having at planting a stem about the thickness of a tobacco-pipe, and about $2\frac{1}{2}$ ft. high. It is now more than 16 ft. high, and the stem is thicker than a stout man's arm. Notwithstanding the late sharp frosts the tree retains its strong and peculiar fragrance, and the whole of the foliage is as perfect as it was during summer. The long-leaved wattle (*Acácia* sp.?) thrives equally well; as does also the bugwood (*Acácia verticillata*), of which I have three specimens which resemble trees of furze, and are remarkably hardy and beautiful. I have a number of other Australian trees and shrubs here, of which I expect soon to send you the particulars. [We shall be most happy to receive them.] During the late frosts I heaped sheet ice round the roots of all these trees, so as to touch their barks, but they were not at all injured by this ordeal. — *R. H. Fleming. Coed Ithil, Jan. 15. 1854.*

Australian Trees in Mackie's Nursery, Norwich. — There is a tree here of *Acácia dealbata*, or *affinis*, 16 ft. high, 5 in. in diameter at 1 ft. from the ground, and with branches covering a space 12 ft. in diameter. Its shape is pyramidal, and its bark smooth and of a greenish grey colour, though, when old, it becomes rough like that of the oak. It grows in a light loam, with a sandy subsoil, and in a north-east exposure. It has stood out here unprotected four winters without receiving the least injury from frost, and is now a very handsome specimen, completely covered with flower buds, which expand the beginning of April. It ripened a little seed last year. I have tried many other species of acacias in the open air, but I have found none so hardy as this. The name I received with it from Van Diemen's Land was "black wattle mimosa." — *F. Mackie, Nov. 28. 1834.*

It is stated in an Australian newspaper, that the *Acácia melanóxylon* and the *Prostanthéra* also stand the open air at Norwich. The white gum (*Eucalyptus resinífera*), the most tender species of *Eucalyptus* in Van Diemen's Land, though killed to the ground as a standard, is said to thrive against a wall when protected during winter by a mat. We should be glad to have some particulars of these and of other Australian trees which have been tried in the open air in different parts of England. — *Cond.*

Sida pulchélla, which produces its clusters of beautiful white blossoms in the gullies about Sunday Bay, and at the foot of Mount Wellington, in the neighbourhood of Hobart Town, in the depth of winter, there can be no doubt, would stand the open air quite well in England. A very beautiful species of this genus, which had stood the winter at Redleaf, in Kent, in the garden of W. Wells, Esq., was exhibited at the London Horticultural Society, Feb. 17. 1835. (*See Report of the Hort. Soc.*)

At *Cuffnells*, near *Lyndhurst*, there is a celebrated *Rhododéndron pónicum*, considered the largest in England. Although the plantations of the American garden at *Cuffnells* are of small extent, and do not contain any great variety, they are laid out with great taste, and there are some fine specimens of the commoner rhododendrons and *old azaleas*. In the shrubberies are some four or five fine specimens of *Halèsia* díptera and *tetráptera*; but they are so overgrown with other trees, that they would be useless as portraits. There is also, in a small sheltered garden, a fine *Edwárdsia microphýlla*, which, having originally been planted against a low wall, has grown many feet above it, and has no protection whatever. It flowers freely, and produces fertile seeds, plants from which have been given to several people, in hopes that the individuals proceeding from seeds ripened in our climate may prove more hardy, and perhaps succeed as standards. In the same garden is a very large plant of a species of *Metrosidéros* with white flowers, which has grown for years without the least protection, and flowers most abundantly. *Maurándya Barclayána* is perennial with us; but commonly dies down in the winter, shooting vigorously in the spring. *Acácia armata* has been against a wall (north-west aspect) for two winters, and is now covered with abundant bloom, just bursting into flower. This plant has a mat in frosty weather. In the conservatory we have some fine old plants of *Acácia armata*, *Acácia ? scolopéndron*, and some fine old conservatory plants. — *E. P. Feb. 5. 1835.*

A remarkable Stone Pine (*Pinus Pinea*), growing in the pleasure-grounds at Bywell Hall, near Newcastle on Tyne, the seat of T. W. Beaumont, Esq., M. P., in Northumberland. The situation in which the tree grows is upon the north bank of the river Tyne, and it is partly sheltered from the north-west and north-east winds. The soil is of a very light nature, the subsoil approaching to river sand. The dimensions of the tree are as follows : — Circumference at 1 ft. from the ground, 8 ft. 7 in.; height of the trunk to the branches, 11 ft.; circumference at the lowest branches, 6 ft. 3 in.; greatest diameter of the branches, 44 ft. 6 in.; height from the ground to the topmost branch, 44 ft. 9 in. The cones are generally from 4½ to 5 in. in length. I have not been able to ascertain the age of this tree; but, judging from its appearance, I should suppose it to be between 60 and 70 years old, and it is supposed to be the largest specimen of the kind in the north of England. It usually produces a large quantity of perfect seeds; from which many thousands of young plants have been raised. I send you a specimen of the branches, cones, and bark, that you may be certain of the species. [*P. Pinea*, as Mr. Lambert and Mr. Don assure us.] — *James Reid. Bretton Hall Gardens, near Barnsley, Dec. 26. 1834.*

A very beautiful Specimen of Cratægus Oxyacantha var. præcox, gathered in flower on Christmas-day, 1834, in the Botanic Garden, Oxford, has been sent to us by the curator, Mr. Baxter. The leaves and blossoms were as perfect and as beautiful as ever we saw on any in May.

Apples cultivated in the South of England in the Sixteenth Century. — “The names of apples which I had ther graffes from Brentmarch from one Mr. Pace : — Item, the appell out of Essex: the Lethercott, or russett apell; the Loundon peppen; the Ken gneling, or the Croke; the glass appell, or pear-meane; the redd stear; the Nemes appell, or grenling; the Bellabone; the appell out of Dorsettshe; the Domine quo vadis; the Paces pear.” (*Extracted from a common-place book, written by John Trevelyan, of Nettlecombe, Somerset, in 1582.*)

In *Carlisle's Topographical Dictionary*, Brent marsh is said to be a district containing four parishes on the west side of the Mendip hills, near the Bristol Channel. — *W. C. Trevelyan. Athenæum, Jan. 26. 1835.*

A Substitute for Bellows for the purposes of fumigation is now sold, under the name of Clarke's Blower. It consists of a small tin fan-wheel, which works like the fan of a winnowing machine, in one end of a tin tube expanded at that end on purpose to receive it. The appearance of the whole is that of a large horse pistol. It is said to be more durable than the common bellows.

SCOTLAND.

Among the Prizes offered by the Caledonian Horticultural Society are some for the following important articles and essays : — For discovering a mode of successfully cultivating the truffle, the morel, or any of the esculent fungi, besides the common mushroom, or for introducing them into places where they do not grow naturally. For the introduction of any new evergreen or deciduous shrub, of an ornamental character, and sufficiently hardy to withstand the winter of Scotland. For the introduction of any ornamental or useful forest tree, adapted to our climate. For the best model of a moss house, with an account of the materials, mode of construction, and probable expense. For the best model of a rustic chair, with a description of materials recommended for its construction, expense, &c. For the best communication, founded on at least five years' observation, on bringing tender flowers and shrubs to such a state of hardiness as to enable them to endure, in ordinary situations, the climate of Scotland. For the most ample and correct list of shrubs, evergreen or deciduous, or of ornamental forest trees, probably suited to the climate of Scotland, and which have not yet been introduced into this country : the shrubs or trees may be either *species* or marked *varieties*. For the best

account of ascertained facts concerning the effects of foreign impregnation in diversifying the different species of fruits, vegetables, and flowers. For the best essay, founded on observation and experiment, on the effects produced on the scion and its produce by the stock on which it is grafted. For the best description of those diseases that appear in the bark of trees, which have been hitherto indiscriminately denominated canker; with the mode of cure. For an account of the best mode of transmitting home the seeds of certain plants, natives of tropical climates, in such a state as to be capable of germination; to be founded on actual experience: among the seeds particularly referred to are those of the following genera: *Nauclea*, *Ardisia*, *Santalum*, *Michelia*, *Swietenia*, *Urânia*, *Uvária*, *Musa*, *Eugenia*, *Telöpea*, *Doryánthes*, *Laúrus*, *Dillenia*, *Dípterix*, *Cephalótus*. For an account, founded on experience, of the mode of preparing haricots verts, or keeping kidneybeans green in the pod all winter, as practised in various parts of the Continent. For any approved variety of culinary vegetable not hitherto cultivated in Scotland. For the best pint basket of the tubers of *Oxalis crenata*, with an account of the mode of dressing them for table use. For the best pint basket of the tubers of *Alstræmèria ovata*, with an account of the mode of dressing.

In the previous *Report* it is mentioned, that the Horticultural Society of London, with their usual liberality, have lately presented a collection of plants and cuttings of fruit trees and ornamental shrubs for the experimental garden. Several of the London and provincial nurserymen, and amateurs, have lately made similar presents, particularly Messrs. H. Low and Company, Clapton; Messrs. John Lee and Company, Hammersmith; Messrs. Young and Penny, Milford; Mr. Page, Southampton; William Atkinson, Esq., Grove End; and Mr. William Anderson, Apothecaries' Garden, Chelsea; to all of whom the thanks of the Society have been voted.

A *County Horticultural Society* is in contemplation in Fifeshire. In 1820, the Cupar Horticultural Society was commenced; since which several others have sprung up in different parts of Fife. From the very great number of gentlemen's seats within a circuit of twelve or fifteen miles of Cupar, a county society held in that town would, it is thought, have a greater number of active competitors than any other provincial society in Scotland.—*Thomas MacGlashan. Cupar, Jan. 30. 1835.*

IRELAND.

Kilkenny, Feb. 11. 1835.—There are few exotic trees and shrubs of any age in this neighbourhood. Between sixteen and seventeen years ago, my father established this nursery, and stocked it with all the trees and shrubs generally cultivated in nurseries at that time. There are a few older specimens, which were planted before my father's time, and these may be eighty or a hundred years old; they are chiefly phillyreas, alaternus, cypress, cedars, and laurels. This being a tillage county, our gentry plant but little, except for ornament about their houses.

The late Lord Oriel was, through life, a most spirited and successful collector and planter of foreign trees and shrubs; and his nephew, Baron Foster, is a keen horticulturist. Mr. Hayes of Avondale, a sweet place in the county of Wicklow, published some notices of trees, in an 8vo pamphlet [which we have], some years ago.

Our native woods, though they once clothed the island, are now nearly eradicated; but a remnant of one remains about five or six miles from this, belonging to Lord Desert, of an oak in which I have procured the dimensions:—Girt, 12 in. from the ground, 20 ft. 3 in.; at 3 ft. from the ground, 14 ft. 9 in.; at 18 ft., 14 ft.; at its ramification, 22 ft. 6 in.; diameter of its head, 77 ft. I am told of larger oaks, and also of larger ashes; but I can state to you nothing positive respecting them.

I have an ailantus, planted about fifty years ago, which has been repeatedly cut over by the surface, as it overshadowed its neighbours; and I find that it

springs up as freely from the stool as an oak or an ash. This tree is too much neglected, for it is one of the most hardy and rapid-growing that we have. *Corylus Colúrna*, at fifty years' growth, is 3 ft. 7 in. in girth at 1 ft. from the ground; it is 25 ft. high, and the diameter of its head is nearly 50 ft. My father was the first to introduce *Robínia hispida* into Ireland; he got the cuttings from Mr. Wm. Aiton, the elder, and brought them over, and grafted them. I commenced business in 1790; but my father had introduced every thing worth having up to that time, so that he left me little to do. — *John Robertson.*

ART. IV. *Retrospective Criticism.*

The Churchyard at Arley Hall, the Seat of the Earl of Mountnorris, near Kilderrinst. — We stated, in IX. 646., on the authority of the late Mr. Mowbray, curator of the Manchester Botanic Garden, that the tombs and fence of this churchyard were levelled down in the night-time, under his directions. We are just informed, on authority which cannot be doubted, that this was not the case. "The wall was removed in the year 1791, before Mowbray was born; and the levelling of the churchyard took a month at least. It was done with the consent of the clergyman and parish officers, and that of every person whose family was buried there; and all considered it desirable to have a clear churchyard, rather than one covered with briars and rubbish. Lord Mountnorris has done a great deal for the parish, which belongs almost entirely to him; he built a new chancel, and more than half new-pewed the church." — *W. C. London. Feb. 24. 1835.*

The Culture of Orchideæ. (p. 113. 136., and 137., and *Enc. of Gard.* new ed.) — Mr. Scott would render a great service to the cultivators of the Orchideæ, if he were to detail in your Magazine the best mode of treating these highly interesting plants, at greater length than he has done in the *Encyclopædia of Gardening*. The plan I would suggest to him is, that, after some general observations on the family (of which Dr. Lindley's work on these plants and his paper in the *Hort. Trans.* might form the groundwork), he should take each genus *seriatim*, and detail its particular culture, mode of propagation, &c.; and, if there be any species requiring a different treatment, he should notice such. A description of a frame for those hardy species which require one, and of a house or houses best suited for growing the tender sorts, should also be given; and particular attention should be paid to note, in degrees of Fahrenheit's thermometer and some good hygrometer, the temperature and moisture at the various seasons of the year most proper for preserving them in health. The common mode of merely saying "rather cooler," or "rather dryer," is very unsatisfactory. Many other matters will of course occur to Mr. Scott; and if the paper prove too long for the Magazine, it might appear as a pamphlet at a remunerating price; for I am convinced that no cultivator of these plants would hesitate to give even an unreasonable sum for such a work, by one so completely master of the subject. — *N. W. G. London, Feb. 1. 1835.*

The Flower of Pontedèria crássipes. — In your description of Mr. Page's nursery (p. 60.), I observe you mention his having flowered *Pontedèria crássipes* for the first time in this country, and that it bears flowers resembling those of *Rhododéndron arbóreum*. I beg to inform you that we flowered here last autumn *Pontedèria azúrea*, which is usually cultivated under the name of *P. crássipes*, as is observed by Dr. Hooker, in his description of this plant in the *Botanical Magazine*, p. 2932.; but neither his figure, nor the flowers of our plant, bore the slightest resemblance to any *Rhododéndron*. Ours (which were rather paler than his figure) were much more like the flowers of *Iris chinénsis*; we had grown it for years in a small cistern in the stove, but it never flowered. Two strong healthy plants were removed into a stoneware pot, without any earth; this was plunged into a Macphail pit,

where melons were growing, in July. The side shoots were carefully pinched off as they appeared, and the plants produced their beautiful spikes of flowers several times in the months of September and October. By reference to the above-named page in the *Botanical Magazine*, you will see that it flowered at Glasgow in 1829. — *J. F. McElroy, Flower Gardener to W. M. Christy, Esq. Clapham Road, Feb. 23. 1835.*

ART. V. *Queries and Answers.*

CHENOPODIUM Quinòa. — There is something puzzling for me in the facts relating to *Chenopodium Quinòa*, which I hope you may assist me in clearing up. I once had some seed of that plant from Bonpland, the fellow-traveller of Humboldt, on his return from their travels in America: it was exactly similar to what you describe, (X. 587.) a small whitish seed, looking like peeled millet, except that it was more flat. Bonpland had warned me it was very old, and perhaps even had suffered some peeling preparation, so that it was not likely to grow. The result, indeed, was naught, notwithstanding the assistance of hydrochloric acid, and all that I could contrive to promote the germination.

I have ever since attempted to get some again; and, our Jardin des Plantes having at last received a packet under that name, grown the plant, and saved some seed, I obtained from that source a small supply, which enabled me to try its cultivation. The plants have shown themselves in my garden these three or four years to much advantage, stout, healthy, 5 ft. to 6 ft. high; with beautiful, neat, tender leaves, which proved pretty good used as spinach; but the seeds I save, as well as those I first had from the Jardin des Plantes, do not resemble those I had formerly from Bonpland; nor do they seem in the least fitted for the stated economical purposes, so small, and flat, and poor they are, with a blackish very adhering skin upon them.

I conjecture from hence, either that we have not the true sort, or, if we have it, that our climate will not bring the seed to its full size and perfection. In order to come to the verifying of the facts, I send you a paper of my own seed; in order that it, and the plants it will produce, may be compared with Mr. Lambert's; and I shall feel much obliged, if you will be so kind as to send me on your side some seeds of his growth, that I may effect the like comparison here. — *Vilmorin. Paris, Jan. 26. 1835.*

We have sent some of the seeds received from M. Vilmorin to Mr. Lambert, and also to the London and Edinburgh Horticultural Societies, and to Mr. Gorrie, Mr. Lawson, Mr. Mallet, and Mr. Nevin; the remainder we have left with Mr. Charlwood. We have also sent a packet of the white quinoa to M. Vilmorin. With reference to M. Vilmorin's doubts as to the dark-seeded quinoa, if he will consult the *Mémoires d'Agriculture*, published by the Royal Agricultural Society of Paris, in 1786, he will find (p. 98.) a paper by M. le Blond, on the culture and uses of the quinoa. In this paper, after stating that it is a native of North America, and that its grain is used as a substitute for maize and the potato, M. le Blond adds, that there are two kinds of quinoa, the red and the white; but that the latter is the one most generally cultivated, the seeds of the other being bitter, and only used medicinally. — *Cond.*

Oxalis crenata. — Considerable difference of opinion exists here as to the cultivation of *Oxalis crenata*. In very many cases the tubers produced are exceedingly small. Has any mode of culture been practised successfully in England? — *Thomas McGlashan. Cupar, Jan. 30. 1835.*

Glaucolobus natalensis. — In your visit to High Clere (X. 255.), you speak of this plant producing one hundred bulbs in a season, which, if well treated, will flower the following year. I should be glad to learn how to treat them, so as to produce a result so very desirable, as with me ninety-nine of them will certainly require a longer period. — *M. C. Bingham, Feb. 7. 1835.*

Ivy. — What is the most rapid mode of covering a flat surface, say that of ground under large trees, with ivy, as a substitute for turf? Should cuttings be planted, or should long shoots be taken from a wall, and pegged down? — *W. R.*

Evergreen Herbaceous Plants. — Would any of your readers furnish a list of the more hardy flowering plants which retain their leaves all the winter, as perfectly as do pinks and carnations? I do not object to such undershrubs being introduced among them as the thyme, iberis, &c.; but the rosemary, lavender, and tutsan I do not think suitable. — *Amateur.*

Has the Mèlia Azedarách ever flowered in the open air in Devonshire, where, I understand, it grows freely? — *Idem.*

ART. VI. Covent Garden Market.

<i>The Cabbage Tribe.</i>		From	To			From	To
		£ s. d.	£ s. d.			£ s. d.	£ s. d.
Cabbages, per dozen :				Watercress, per dozen small			
White - - - - -	-	0 0 10	0 1 0	bunches - - - - -	-	0 0 4	0 0 6
Red - - - - -	-	0 6 0	0 12 0	Burnet, per bunch - - -	-	0 0 3	0 0 0
Plants or Coleworts - -	-	0 1 9	0 2 6	<i>Pot and Sweet Herbs.</i>			
Savoy, per dozen - - -	-	0 0 9	0 1 5	Parsley, per half sieve -	-	0 3 0	0 0 0
Brussels Sprouts, per $\frac{1}{2}$ sieve	-	0 1 6	0 2 0	Tarragon, per dozen bunches :			
German Greens or Kale, per				Dry - - - - -	-	0 3 0	0 0 0
dozen - - - - -	-	0 0 6	0 0 9	Green - - - - -	-	0 6 0	0 0 0
Broccoli, per bunch :				Fennel, per dozen bunches	-	0 4 0	0 0 0
White - - - - -	-	0 0 8	0 1 6	Thyme, per dozen bunches	-	0 2 6	0 0 0
Purple - - - - -	-	0 0 6	0 1 3	Sage, per dozen bunches -	-	0 2 6	0 0 0
<i>Legumes.</i>				Mint, per dozen bunches :			
Kidneybeans, forced, p. hund.		0 2 0	0 3 0	Dry - - - - -	-	0 1 0	0 0 0
<i>Tubers and Roots.</i>				Green - - - - -	-	0 6 0	0 0 0
Potatoes - } per ton		2 10 0	4 0 0	Marjoram, dry, per dozen bun.	-	0 1 0	0 0 0
- } per cwt.		0 2 6	0 4 0	Savory, per half bunches -	-	0 1 0	0 0 0
- } per bushel		0 1 3	0 2 0	Basil, per dozen bunches -	-	0 1 0	0 0 0
Kidney, per bushel - -	-	0 1 6	0 2 0	Rosemary, green, per doz. bun.	-	0 5 0	0 0 0
Scotch, per bushel - -	-	0 1 6	0 2 0	Lavender, dry, per dozen bun.	-	0 3 0	0 0 0
New, per pound - - -	-	0 1 6	0 2 6	Tansy, per dozen bunches -	-	0 1 0	0 0 0
Jerusalem Artichokes, per				<i>Stalks and Fruits for Tarts,</i>			
half sieve - - - - -	-	0 1 3	0 1 6	<i>Pickling, &c.</i>			
Turnips, White, per bunch	-	0 1 0	0 2 0	Rhubarb Stalks, per bundle	-	0 0 9	0 1 6
Carrots, per bunch - -	-	0 0 5	0 0 6	<i>Edible Fungi and Fuci.</i>			
Horn, per bunch - - -	-	0 0 6	0 0 8	Mushrooms, per pottle - -	-	0 0 9	0 1 3
Parsneps, per dozen - -	-	0 0 6	0 1 3	Morels, per pound - - -	-	0 16 0	0 0 0
Red Beet, per dozen - -	-	0 0 9	0 1 0	Truffles, Foreign, per pound	-	0 12 0	0 0 0
Skirret, per bunch - -	-	0 2 0	0 0 0	<i>Fruits.</i>			
Scorzonera, per bundle -	-	0 2 0	0 0 0	Apples, Dessert, per bushel :			
Salsify, per bunch - -	-	0 2 0	0 0 0	Nonpareils - - - - -	-	0 10 0	2 0 0
Radishes :				Golden Pippins - - - - -	-	0 10 0	1 5 0
Red, per half dozen hands	-			Reinette Grise - - - - -	-	0 15 0	1 0 0
(24 to 30 each) - - -	-	0 0 9	0 1 3	Baking, per bushel - - -	-	0 5 0	0 7 0
White Turnip, per bunch	-	0 0 4	0 0 6	French, per bushel - - -	-	0 3 6	0 5 0
<i>The Onion Tribe.</i>				Gooseberry Pippins, per bl.	-	0 10 0	0 12 6
Onions, old, per bushel -	-	0 1 9	0 2 6	Holland Pippins, per bushel	-	0 10 0	0 0 0
For pickling, per half sieve	-	0 5 0	0 7 0	Pears: Beurre de Pentecôt,			
Green (Ciboules), per bunch	-	0 0 3	0 0 0	per dozen - - - - -	-	0 0 0	0 18 0
Leeks, per dozen bunches -	-	0 0 9	0 1 0	Almonds, per peck - - -	-	0 4 0	0 0 0
Garlic, per pound - - -	-	0 0 8	0 0 0	Cranberries, per gallon -	-	0 4 0	0 0 0
Shallots, per pound - -	-	0 0 10	0 1 0	Strawberries, forced, per oz.	-	0 2 0	0 3 0
<i>Asparaginous Plants,</i>				Chestnuts, French, per peck	-	0 3 0	0 5 0
<i>Salads, &c.</i>				Filberts, English, per 100 lbs.	-	7 0 0	0 0 0
Asparagus, per 100 :				Pine-apples, per pound -	-	0 6 0	0 16 0
Large - - - - -	-	0 10 0	0 12 0	Grapes, per pound :			
Seconds - - - - -	-	0 6 0	0 8 0	Spanish - - - - -	-	0 1 0	0 1 3
Middling - - - - -	-	0 3 0	0 5 0	Portugal - - - - -	-	0 1 6	0 2 6
Sprue - - - - -	-	0 1 6	0 2 6	Cucumbers, Frame, per brace	-	0 10 0	0 16 0
Sea-kale, per punnet - -	-	0 2 0	0 3 6	Oranges } per dozen - -	-	0 0 9	0 2 0
Lettuce, per score :				- } per hundred - - -	-	0 4 0	0 14 0
Cos - - - - -	-	0 1 6	0 2 0	Bitter Oranges - - - - -	-	0 8 0	1 0 0
Cabbage - - - - -	-	0 0 4	0 0 6	Lemons } per dozen - -	-	0 0 9	0 2 0
Endive, per score - - -	-	0 1 9	0 2 6	- } per hundred - - -	-	0 5 0	0 14 0
Celery, per bundle (12 to 15)	-	0 0 4	0 1 6	Sweet Almonds, per pound	-	0 2 3	0 2 6
Small Salads, per punnet -	-	0 0 2	0 0 3	Spanish Nuts, per peck -	-	0 5 0	0 0 0
				Barcelona Nuts, per peck -	-	0 6 0	0 0 0

Observations. — The market has been fully supplied with all the articles usually found at this season. Forced asparagus and sea-kale have been in demand, and made better prices, with an appearance of continuing so for some time. Broccoli is now in great plenty: many of the early varieties having been retarded by the continued prevalence of dry weather during the autumn and early winter months, are now only coming into use: we have, consequently, a very heavy supply. To the same cause may be also attributed the large supply of other winter greens. With the prevalence of mild weather throughout the winter, rhubarb, from the open ground, is now coming in generally, and of good quality: it is now in such general use as to prevent any very great rise in the price of apples at this season, when the supply is necessarily becoming limited. Onions are somewhat dearer, but still in moderate quantity, the demand for them being moderate. Of potatoes we have an abundance; the prices very moderate, and in limited demand. This article is much affected by the price of bread, and the general supply of other vegetables. The supply of fruit is getting small; good apples are in demand at better prices: a cargo of French Royals, and some from Jersey, have been received. — *G. C. March 24, 1835.*

ART. VII. *London Horticultural Society and Garden.*

DEC. 2. — Read. A note on the preservation of carrots from wireworms, &c.; by Sir G. S. Mackenzie. Notes upon a handsome new hardy plant called *Clíanthus puniceus*; by Dr. Lindley.

Exhibited. Gomèza, two species of, from Messrs. Rollison. Orange and three citrons from the open air, from the Rev. R. Henshaw, Woodville, Salcombe, near Kingsbridge, Devonshire. Chinese chrysanthemums, thirty-six sorts, from Messrs. Chandler. Hawthornden apples of the second crop, from Mr. J. Kirke. Apples of the second crop, from E. Rudge, Esq. Uvedale's St. Germain pears, from — Bennett, Esq.

Also, from the Society's Garden. Flowering specimens of *Chimonánthus fràgrans*, *C. fràgrans grandiflorus*, *Acropèra Loddigèsi*, and of other plants; and of thirty-two varieties of China chrysanthemums. — Fruits. A Chinese pomegranate, glout morceau pear, and a collection of kitchen and table apples. Of the apples, the London pippin is noted as a kind eligible for either the kitchen or dessert, and as keeping excellently, without shrivelling; Grange's seedling is noted as a good firm kitchen apple.

Jan. 20. 1835. — Read. A treatise, entitled *A farther Account of Experiments upon the Cultivation of the Potato*, made in the Garden of the Society, in the Year 1834; by Dr. Lindley.

Exhibited. A double cone of the *Araucària* pine, from Mr. Wood, 5, Bedford Place, Vauxhall Road. Catshead and gilliflower apples, from William Rashleigh, Esq. F.H.S. A shaddock, raised in Lancashire, from H. M. Dyer, Esq. Fruit of the blimbing, from James Bateman, Esq. F.H.S. *Echevèria gibbiflora*; *Epacris variabilis*, imprèssa, and ròsea; *Erica pellúcida*, Linnæ'a, and *vérnix coccínea*; from Mrs. Lawrence. Single *Prúnus sinénsis*, from John Reeves, Esq.

Also, from the Society's Garden. Flowers: *Chimonánthus fràgrans*, f. *grandiflorus*, f. *parviflorus*; *Amarýllis calyptràta*. — Fruits. Apples: 12 dessert kinds, namely, Baxter's pearmain, golden pearmain, rose de Chine, reinette du Canada, Dutch mignonne, conquest of Wigers, Burns's seedling, Wheeler's russet, court pendu plat, Roman stem, Boston russet, St. Julien, Rhode Island greening, royal rouge d'hiver, northern greening, Waltham Abbey seedling, Hornead pearmain, Alfriston, Sweeney nonpareil, *Æsopus Spitzembere*, gloria mundi, Belldige pippin, golden noble, Baldwin; white Easter, a good keeping apple for kitchen use; male Carle, sent to show that this, so fine in Italy, will not acquire

flavour in this climate (unless against a wall), where it has not yet come into bearing; Newtown Spitzemberg, London pippin; Brabant bellefleur, a very fine kitchen fruit. Pears: Easter beurré; beurré rance, from standard trees; ne plus Meuris, from standard trees: the fruit of these three kinds had been kept in sand. Cuttings for distribution: fifty sets of each of the following kinds:—Plums: Coe's fine late red (a very valuable late sort), Washington. Cherries: Elton, late Duke.

Feb. 3. — Read. A communication on the failure of the growth of the potato; by J. B. Turner, Esq., Borough Cottage, Ilfracombe. A note on the means employed in raising a tree of the impératrice nectarine; by T. A. Knight, Esq.

Exhibited. A Catillac pear, in weight 2 lb. 1 oz., from the garden of F. Green, Esq., Faversham, Beds.; presented by J. Simpson, Esq. Patent fumigators and blowers, from Mr. Alexander Clark, 7. Nelson Terrace, City Road. A seedling variety of *Cyclamen persicum*, from Mr. Glenny. *Neottia speciosa*, *Astrapæa Wallichii*, *Crinum amabile*, *Helleborus niger*, *Prœtea* sp., and *Sedum* sp., from Mrs. Marryat. Camellias, from Mr. Allnutt. *Camellia japonica Cliveana* and *j. Colvillii*, from Messrs. Chandler.

Also, from the Society's Garden. Flowering specimens of *Garrya elliptica*, *Chimonanthus fragrans*, f. *grandiflorus*, f. *parviflorus*; *Crinum amabile*; camellias of the varieties *rotundifolia*, *princeps*, *Aitonia*, *fimbriata*, *alba plena*; *Amarýllis aúlica*.—Fruits. Apples of the kinds Calville malingre, a great bearer; Rhode Island greening, conquest of Wigors, Herefordshire pearmain, reinette du Canada, Martin nonpareil; Boston russet, a very good table apple; Sturmer pippin, Dutch mignonne; Ord's mignonne, esteemed by some for its abundance of sharp juice; red-streak keeping, reinette jaune sucrée, winter queening, Pennock's red winter, golden noble, Ponto pippin; green balsam, a good kitchen apple; London pippin, Grange's seedling, Bedfordshire foundling, Morden striped; Baldwin, an American sort, which keeps long sound for kitchen use; Bellidge. Pears: Easter beurré, beurré rance; both from standard trees. Cuttings for distribution:—Plums: reine Claude violette, nectarine. Cherries: Downton, Knight's early black.

Feb. 17. — Read. The meteorological journal kept in the Society's garden, for 1834. A note on the cultivation of the pine-apple, by Mr. Craig Pillans, gardener to the Duke of Roxburgh, at Arloors, near Kelso, Scotland.

Exhibited. *Blêtia hyacinthina*, *Acácia* sp., violets, the single Neapolitan, from Mrs. Marryat. Flowers: *Helleborus odorus*, *Garrya elliptica*, *Chimonanthus fragrans*, *Diósma capitata*, *Gnidia simplex*, *Lachenalia tricolor*, *Amarýllis amabilis*, *Búddlea madagascariensis*; *Camellia japonica fimbriata*, *japonica splendens*, *japonica decora*, *j. carnation waratah*, *j. double striped*. Apples: Stony Royd pippin, Kaisersheimer, pigeon, Grange's seedling, northern greening, grey queening, winter queening, silverlink, ognon, Parry's pearmain, Calville royale, red Easter, Bedfordshire foundling, excellent kitchen apple; royal reinette; Brabant bellefleur, a fine kitchen apple; Rhode Island greening, good, either for kitchen or table use; London pippin, Bellidge, Norfolk pippin, green nonpareil. Cuttings of pears for distribution: beurré Bosc, reckoned superior to Marie Louise; bon chrétien fondant; Nelis d'hiver, one of the very finest of winter pears as regards flavour; monarch: 50 sets of each.

March 3. — Read. A communication on forcing of peaches and nectarines; by Mr. John Mearns. A treatise on the cultivation of the vine, by Mr. William Gowans; communicated by the Glasgow Horticultural Society.

Exhibited. Camellias from J. Allnutt, Esq., of the kinds *reticulata*, *japonica incarnata*, Le Blanc's red, and a seedling. *Camellia japonica conspícua*, *j. Reevesii longifolia*, *j. Palmeri*, *Prímula prænitens*, white-corollaed, *p. purple-corollaed*, and cut camellias from S. C. Palmer.

From the Society's Garden. Flowering specimens of *Berberis Aquifolium*,

Chimonanthus fràgrans, *Helléborus odòrus*, *Azàlea índica phœnícea*, *Acàcia armàta*, *Cinerària Petasites*, *Amaryllis pulverulénta*, and camellias of the kinds *spléndens*, carnation waratah, *Dorsèti* and *aucubæfòlia*. — Fruits. Apples: Conquest of Wigers, pomme violette, rouge d'hiver, Lucombe's seedling, beauty of Kent, winter pearmain, Pile's russet, grey greening, royal reinette, Dutch mignonne; and the following kinds, which are recommended as sound keeping apples for kitchen use:—Northern greening, white Easter, Pennock's red winter, Brabant bellefleur, Burns's seedling, Devonshire Buckland, Rhode Island greening. The white Easter is "a tall handsome apple from the Continent, originally with the name of Blanche Paasch apple." Cuttings for distribution of these kinds of pears:—Emerald, Comte de Larry, Eyewood, Thompson's. These are all hardy, and good bearers. The emerald equals in size, and fully in quality, the glout morceau; ripens at about the same time; is of Belgic origin. The Comte de Larry is an earlier autumn kind, nearly middle-sized; very rich. Of the Eyewood there is not much known at the garden; but on the authority of Knight, by whom it was raised, it proved good in 1831, when all the other hardy seedlings did not possess their usual excellence: hence very valuable. Thompson's bears considerable analogy to the *passee-Colmar*, which it resembles in its very sugary and melting quality; of Belgic origin.

March 17.—*Read.* Further observations on the cultivation of the grape vine by coiling; by Mr. John Mearns, F.H.S.

Exhibited. *Rhododéndron álta-clerénse*, from Messrs. Young, Epsom Nursery. *Chenopodium Quínda*, from A. B. Lambert, Esq. A new variety of *Oxalis crenàta*, from Mr. Henry Groom. A seedling camellia, and a seedling camellia designated *péndula*, and *E'pacrís purpuráscens*, from John Alnutt, Esq. *Magnòlia conspícua*, Mrs. Meyer. *Acàcia decúrrens*, *ínifòlia*, *pubéscens*, *strícta*, and species nova; and two kinds of camellia, from Mrs. Marryat. Camellias which had grown in the open air, from Mr. Glendinning, gardener to Lord Rolle. Seeds, for distribution, of *Acàcia lophántha*, from the Rev. Finney Bel-field, F.H.S.

From the Garden of the Society. *Bérberis Aquifolium*, *Amýgdalus macrocárpa*, *Acàcia dealbàta*, *Leucòjum pulchellum*, *Polýgala cordifolia* and *grandiflòra*, *Pultenæa daphnòides*, *Candòllea cuneifórmis*, *Goódia lotifolia*, *E'pacrís attenuàta*; and these varieties of *Caméllia japónica*, *speciòsa*, *álba-plèna*, and waratah; *Oncídium papílio*. Pine-apple: Hesketh's No. 1. Cuttings and seeds for distribution:—Pears: *Beurré d'Aremberg*, *fondante du bois*, *poire Neil*, *Louise bonne of Jersey*. Apple: *Brabant bellefleur*. Seeds of beet of the kinds *red Castelnauary*, *yellow Castelnauary*, *betterave jaune blanche*, *betterave blanche colletrose*.

ART. VIII. Obituary.

DEATH of Mr. Douglas the Botanist.—At a meeting of the Geographical Society, held on the 9th of March, Captain M'Konnochie announced the painful intelligence that Mr. Douglas had fallen into one of the pits dug by the Sandwich Islanders for the purpose of catching wild bulls. One of these bulls was in the pit at the time, and gored Mr. Douglas so dreadfully as to cause his death. So horrible a death, we believe, was never before encountered in the cause of natural history. No man ever introduced so many beautiful hardy plants into Britain as Mr. Douglas, and the botanical and gardening world has sustained the greatest loss by his death. We trust that Mr. Sabine, his early patron and friend, will publish some account of his career from his first coming into the service of the Horticultural Society.

THE
GARDENER'S MAGAZINE,
MAY, 1835.

ORIGINAL COMMUNICATIONS.

ART. I. *Observations on the Gardening of Belgium, with incidental Remarks on its Rural and Domestic Economy; extracted from Notes made during a Six Years' Residence in the Country.* By JOHN MADDISON, Esq., of Wondelghem, near Ghent.

PERHAPS there are no people except the English that have a greater taste for horticulture than the Belgians: but, then, it is practised on quite different principles in the two countries; for where, in England, a new plant would be worth five guineas, in Belgium the gardener would have difficulty in regaining the money he had spent in raising it, unless he were enabled to multiply it exceedingly: and, even then, he would find so many competitors, that he would be obliged to take out the greater part of his gains in other plants which would be given to him in exchange. Almost every one here has something to do with plants; and every one, therefore, is unwilling to pay money for new plants, knowing that in his own collection he has also plants which others desire, and that thus he can always exchange. In the town of Ghent itself there are 203 plant-houses, and in its immediate environs 67.

Soil. — I know of no place where the propagation of plants is more successful than in this country: the Ghent gardeners certainly excel in this species of culture. The ground in which they strike their cuttings and make their layers is, without exception, the finest I ever saw; but this ground, which is so good for the growth of plants, is, comparatively speaking, worth but little for throwing a plant into flower, or for the production of good fruit. American plants, and many with wiry roots, it suits well enough; though, with the exception of the American border plants (peat-earth plants), I am inclined to think even the others would succeed better, as they increase in age, in a soil with a mixture of loam, an earth hardly to be met with in the environs of Ghent: and this circumstance, together with the

want of air in winter, may be adduced as an additional reason why the plants kept in plant-houses in this country are generally drawn up so tall and unsightly.

Camellias are a tribe of plants which are grown almost to infinity in Ghent and its neighbourhood. They are the fashion : and this is, here, quite a sufficient apology for the immense numbers that are to be met with. It is very amusing to hear the gardeners and amateurs boasting to each other of their two hundred or three hundred varieties of this plant. The Belgic gardeners are certainly very clever in the propagation of this plant, seldom failing in grafting, by approach (*à côté*), every bud ; so that a young camellia, with ten leaves and buds, is almost certain of being made into as many plants. But, at the same time, in most years, a stranger would be struck with the want of flowers and flower buds on very large camellias, among the many thousands to be met with in their green-houses. It is in this they fail ; and I attribute it principally to the nature of the earth their large plants are grown in, but also partly to their removal into the open air before their flower buds are formed. I have visited in the season many collections, containing, very probably, a million plants ; and, with the exception of M. Riender's, of Brussels, I cannot recollect seeing one well cultivated collection, in point of flower-bearing plants.

Pelargoniums are another tribe of plants which the Ghent gardeners and amateurs cannot succeed in flowering to perfection ; but then, at times, the fashion fluctuates respecting them : and this, to the Belgians, as well as to their French neighbours, is a sufficient inducement to discard from their collections the handsomest plant in existence. In fact, they place their pelargoniums much too close together ; and yet, in the flowering season, are astonished to find that they are drawn up like sticks, and will seldom produce more than one set of flowers in a season : whereas all successful growers of this beautiful tribe of plants in England are aware that, with proper management, and with little pains, the pelargonium may be made to flower from April to August.

Dahlias. — The Belgic gardeners do not appear to have any idea of keeping up a succession of flowers the whole year round in their gardens ; and but few keep each tribe of plants distinct from the rest. Every one seems desirous of having as great a variety of plants as his houses can hold ; but I do not recollect ever seeing anything like a regular succession of plants : as, for instance, beginning the season with the middle of October (the commencement of the camellia season) ; and continuing it, during the spring and summer, with the pelargoniums, till August ; and then ending it with the dahlias. The fact, I believe, is, that the Belgic gardeners cannot flower these three above-named plants

as they ought to do. The dahlias they can grow as high as 18 ft., but a dwarf one of 2 ft. is a rarity. In the town, I do not think it possible for dahlias to be flowered in perfection, the earth being too much worn out, as well as too rich, light, and spongy; but the amateurs in the country have much improved lately in growing this handsome tribe of plants. If the fashion for them could be kept up, and the country gentlemen could be persuaded to pay a handsome price for their plants, and to be a little more select in their choice, I have but little doubt that dahlias might be grown quite as well in Belgium as they are in England.

Azaleas. — The Belgian is extremely fickle in his taste for plants. The cultivation of the beautiful tribe of azaleas is, in a manner, passed by; and yet no country in the world is more favourable for that kind of culture than this. A few years back, they were the *mode*; and thousands were in flower at one time, in gardens where, at present, you would find but few, if any at all. I am glad to find, however, that immense quantities are sent over every year to England. This is a family of plants which ought always to remain the fashion; especially that variety named *Azàlea Mortèrzi*, a late-flowering azalea, which comes into flower about a month after the commoner kinds. The Ghent gardeners have lately sadly neglected their azaleas: they have neither propagated the old sorts, nor made the most of those they have raised from seed. Let, therefore, the English gardener apply himself to this kind of culture, and I have little doubt that, in a few years, by means of cross-breeding, the English gardeners will have the finest collections in the world. In this country they have too many irons in the fire at once, to do justice to any one particular tribe of plants: they overburthen themselves with the variety of their culture, and excel in no one particular kind.

The Orchideæ are just now the fashion; and, from all appearance, I think the gardeners here will succeed in their culture, provided they are careful to keep their houses up to the proper degree of heat and moisture. The plants appear to grow fast, and multiply easily. A gardener named Vangert has planted a collection, in a pit without pots, in his hot-house; and, to all appearance, they thrive well.

The Carriage of Plants to and from England is exorbitant, not so much as regards the carriage by steam from London to Ostend, but the commissioners and agents on both sides of the water contrive to run up bills to a most exorbitant charge. I know it as a fact, that many amateurs are deterred from having over plants from England *solely* on account of the expense they are put to by the carriage. I have known baskets containing two or three plants cost half as much as the plants themselves

are worth. The best way of proceeding is, never to have over a small quantity, at least not less than thirty pots at a time. The expenses, I think, would then not exceed 1s. a pot, unless the pots were very large.

Gardeners, competent to take care of gentlemen's gardens, are very scarce in this country; and, what is still worse, they are seldom to be trusted. Many of them have permission from their masters to exchange plants with the nurserymen: and this system is often carried too far; for, instead of exchanging, they abuse the liberty they have, and sell their masters' plants for their own profit. A great inducement to this system of traffic, I imagine, arises from the immense quantities of public-houses which are kept in every village, and in all the suburbs of the town of Ghent, to which it is the custom for all classes to resort in an evening. The gardener, as well as others, naturally goes there for society, instead of spending his evening at home; and, if in the least inclined to drink, is sure to fall a prey to those who are on the watch, and who are desirous of obtaining plants at a cheap rate. The number of *cabarets* in this country is truly astonishing; and, as the many festivals of the Catholic church, as well as the village *kermesses*, or fairs, where, among the lower orders, drinking is often the order of the day, leave the gardener with too much idle time upon his hands; he is but too often found to expend all his gains in drink. I must add that, generally speaking, the Belgians are not reading gardeners, and can neither speak nor understand any language but Flemish. It may be easily imagined what a prodigious loss of time there is in this country, and how totally impossible it is, under the present system, that there ever can be a first-rate gardener in Belgium. It is also a common practice in this country to pay a gardener partly in money, and partly from the produce of the garden and wood yard. The wages, of course, must greatly differ; but, I imagine, a florin (about 1s. 6d.) a day, with fuel, vegetables, and an apartment to live in, is reckoned a fair average; many even pay less: 14d. Flemish (about 1s. English) is the usual price in the country for a day labourer, in the summer, without giving him board or lodging; in the winter, 9d. English. The farmers pay their labourers by giving them their food, and from 5d. to 6d. per day; but meat or beer is seldom or never given, except among the very great farmers. Potatoes, black bread made of rye, buttermilk, and water are the usual food of the peasantry; except occasionally at the killing of a pig, when, for a short time, their living is somewhat better. As living is dearer in the town, the wages are somewhat higher; but, I think, but few of the first-rate gardeners pay their workmen more than a florin a day.

The Country-Houses of the gentry are for the most part spa-

cious and airy ; but, as the family scarcely ever inhabits them during the winter months (from October to May), their gardens and pleasure-grounds, during that period, are much neglected ; and, with the exception of the vegetable garden, nothing can be more slovenly kept. Scarcely an evergreen is visible, with the exception of the pine and fir tribe ; and rhododendrons, laurels, laurustinuses, and arbutus are, from the severity of the winters, very scarce ; and the lawns, which, in summer, are grazed by cows, instead of being regularly mown, present the most untidy and neglected appearance imaginable. The walks, instead of being gravelled, are covered with sand ; which, with the want of box edging, gives the garden a very unfinished appearance. True it is that the beds and compartments of flowers are sometimes enclosed with a kind of border composed of flat sandy-coloured oblong tiles, to prevent the earth from being washed into the walks ; but which, at a distance, is scarcely seen, being nearly of the same colour as the walk itself. This kind of edging in a kitchen-garden, or in a nurseryman's grounds, might do very well ; but, in a gentleman's pleasure-ground or flower-garden, is, to my taste, quite out of place.

Pine-apples grown here are very inferior to what I have seen them in England ; as they appear to throw all their force into their leaves, at the expense of the fruit. The earth, I imagine, is by far too light, not having any loam mixed with it ; and, though many of the gentlemen have pine-pits, and cultivate different kinds, yet I have never seen any which, in England, could be called handsome fruit.

Cantaloup Melons grow very fine, and their culture appears to be understood by the gardeners of the resident gentry ; but the other kinds of this fruit appear to be very scarce.

Grapes ripen well and early : in the open air, on the walls, in September and October ; and, in their forcing-houses, as early as May. The soil, being sandy, contributes a great deal to their early ripening. The vines have, this year, been very much loaded on the open walls ; and the fruit (the sweetwater, or black Hamburgh) has been very well tasted.

Standard Pears do well for a short time in the town ; but, when their roots get down to the water, they rot and become cankered. In the country, where there is an excess of sand, they produce a great deal of wood, and but little fruit ; which is, for the most part, very gritty and hard. Pears trained *en pyramide*, in this sandy soil, do not appear to answer ; they go too much to wood after being pruned, though, in the town, they are rather better bearers.

Standard Apples will not thrive at all in the lower part of the town ; though, in the upper part, some kinds do well. In the sandy parts of the country, they answer much better than pears,

and, with common care, bear fruit very regularly. The court pendu and the rennet ripen their fruit, in most years, very well as standards. The same insect which eats a hole to the heart of the apple in England is also very prevalent here, and causes numbers to fall off every year.

Peaches are not nearly so well flavoured about Ghent as in England. They appear to me as too mealy; and good nectarines are very scarce. The pruning of the peach and nectarine trees is very singular, when compared with what is practised in England. Scarcely a tree is ever pruned in this neighbourhood before the month of April; many even prefer waiting till the young fruit is just formed, and the flowers are falling off, before they let a knife approach the tree: at which time, or a little before, all the trees undergo a complete whitewashing with lime-water, to kill the insects. I have observed that those trees which are so washed are sure to produce the finest fruit, and to be more free from insects than those which I have, for experiment, left unwashed. This washing, which is also given annually to the apple and pear tree, is, I believe, principally confined to those places where the soil is sandy in excess; as, in the country about Liège, they dare not make use of this process, for fear of killing the tree. So convinced now am I of the utility of an annual whitewashing to my trees, that I practise it upon a collection of Lancashire gooseberries, immediately after I have pruned them in February; and have found the best effects resulting from it, never, since the time I began to practise it, having found an insect on the trees. In June, the long shoots of the peach are laid in close to the wall, but are not much cut out; it is in April that the knife is so much used. The borders are usually cropped with some annual crop, such as lettuce, spinach, &c., which does not appear to injure the roots of the trees. The largest and oldest peach trees I have seen in Belgium are at Marie L'Erne, under the direction of a gardener named Vandenbergen; and they are said to be remarkably well managed.

Standard Cherries produce plenty of fruit, though there are but few varieties: a kind with a very short stalk, growing well in the neighbourhood of Bruges, is the favourite. Few, if any, of the fine English cherries are to be found here. Cherry trees are propagated by grafting *en fente* in the month of April or end of March, and throw out but little gum. I am inclined to think that the practice of plastering over the wounds with the grafting composition here made use of prevents gumming from taking place. This composition consists of pitch, rosin, and bees' wax, in nearly equal quantities, boiled over a fire, and, when liquid, applied to cover the place where the graft is made. This keeps out the rain, stops the bleeding of the tree, and gives way very

gently as the shoot increases; it is by far the neatest grafting composition that I know. In very hot weather, a little more resin may be added, to prevent the composition from melting.

Plums, as standards, are generally very prolific bearers. The green gage (la reine Claude) bears sometimes very well as a standard; the fruit is not so large as on a wall, but it has a very fine flavour.

Apricots, when not too old, are good bearers as standards, particularly in the fat greasy ground in the town; in the sandy soil in the country they are apt to run too much to wood, without producing fruit.

Strawberries are very small, and inferior to those in England; the alpine kinds (or, as they are here called, the *perpetuals*) appear to be most liked. The soil, however, is by far too sandy and dry to produce good crops; and, if rain falls during the time the fruit is ripening, it is almost impossible to eat it, from the quantity of sand with which it is covered.

The soil here is rather too dry for *gooseberries*, and the sun too powerful: they produce plenty of fruit, but much smaller than in England.

Raspberries, also, are very prolific; and, if a bucketful of liquid manure be applied to the roots in March and April, will make astonishing shoots during the summer.

Currants ripen well here, but do not grow to so large a size as in England.

The vegetables in this country are for the most part good; but such as require a good deal of moisture and a strong soil are difficult to be met with fine. In the first place, *asparagus* will always hold the first rank; for I know of no place where finer is grown than in the neighbourhood of Ghent. It can be eaten within a quarter of an inch of the end. It is of excellent flavour; nearly all white, with the top tipped with green; and the bundles consist of a hundred heads.

The Brussels sprouts must be accounted the next best vegetable. The plant here grows to about 3 ft. or 4 ft. in height; and is covered from top to bottom with its little round sprouts, which, when touched by the frost, have a slight taste of marrow. Sown in February, they can be eaten in September; but those sown about the 22d of March I consider to be the best, as they come into eating just after the first November frosts, and last till the March following. Brussels sprouts ought never to be eaten before the plant is touched by the frost; and in this it resembles the savoy, which also grows here very fine in the winter: but I am inclined to think the Brussels sprouts much the hardier of the two. Brussels sprouts have supported, in my garden, without injury, more than 10° of frost, by Reaumur's thermometer.

Celery here grows very fine; which, from the dryness of the

ground, is remarkable. But, at the same time, it scarcely ever rots in winter; and, in most years, can be eaten till the middle of March, at which time it begins to throw up flower stalks.

Onions, except in the spongy gardens in the town, are almost always a failure; and, when the seed does come up, the bulbs are very small.

The soil agrees very well with *carrots*: in the dry soils, they must be sown earlier (about February) than in those which are moister. They are well tasted, though, perhaps, not so large as those in England.

Peas are not so well tasted as in England; and, from the natural dryness of the climate, the summer crops are generally a failure. The early Charlton and the Prussian blue are those generally cultivated.

I have never seen a good crop of *broad beans* during my residence in this country; the soil appears too light for them.

Kidneybeans, particularly the tall-growing kinds, are cultivated in every garden, and form a dish at every table, both in summer and winter. For the winter use they are first cut into slices, and well rubbed with salt on a board; and then put into a stone jar, and covered with vine leaves. On the vine leaves is placed a piece of flat slate, merely to cover the orifice of the jar; and on the slate is placed a heavy stone. The jar is not tied down, but placed on a shelf (not the floor) in the cellar (rather dry). The beans, being young, will keep till the July following. They are fit to use two months after they are pickled. When cooked, they must be boiled in two waters, and, if the colour could be preserved, would be precisely the same as beans eaten in the month of July. To keep well, the brine arising from the salting of the beans should be about half an inch above the beans, after they are pressed down by the weight of the slate and stone. The beans made use of ought to be young, and gathered before the seed has come to its full growth. The dwarf buff and the dwarf mottled answer as well as any for preserving in this way; the negro appears to be a sort not sufficiently tender.

The soil of this country being sandy is the reason why the *potatoes* are so good. I do not think there are above three kinds cultivated; the large roundish white potatoes, for the pigs; and the yellow or early summer potatoes, and the red peaty-skinned potatoes, for the table. The latter are of a round middling size, and afford a great quantity of farinaceous matter: when boiled with but little water, they are particularly excellent. Potatoes are planted from the first week in April, as late as the end of June, even after the barley has been cut, and as a succeeding crop to it. They require a good deal of manure, and, when sprouting, should be well watered with liquid manure.

By this means their growth is accelerated ; and they produce good crops about the end of October or the beginning of November ; at which time they are taken up, and buried in the ground in holes lined with straw to keep out frosts, and are used during winter as they are wanted.

The Turnips here are small, but very well tasted ; and, after they have been well chopped up into small pieces, the farmers feed their cows upon them during winter.

Endive, particularly the curled kinds, is grown very fine here during the winter ; and, in the raising and growing of winter salads generally, the Ghent gardeners certainly surpass the English, as well as in all kinds of winter forcing. They grow their winter salads upon hot-beds made of dung and leaves ; which keep up a low but a prolonged temperature better than one made of dung alone ; and, from the dryness of the atmosphere, they seldom if ever lose their plants from damp.

I have never seen fine *Cos lettuce* in this country ; the soil and dryness causing them all to run to seed : whereas the cabbage lettuce grows very fine, particularly such as are forced during winter.

Cauliflowers and broccolis are another kind of vegetables which fail completely in this sandy soil ; they are neither so large nor close-headed as those grown in England. Give them as rich a soil as you please, and yet they will not succeed : they want loam, which is not to be found here.

ART. II. *Notices of the State of Gardening in Part of France, as observed during an Excursion in that Country in the Months of April and May, 1834.* By Mr. GEORGE CHARLWOOD, Seedsman, Covent Garden.

(Continued from Vol. X. p. 477.)

THE country beyond Amiens, on the road to Paris, is of the same open champaign nature as before mentioned ; scarcely a hedgerow or any marked division of the land is to be observed. But few regular orchards are to be seen, though the roads, for miles together, are lined by apple trees ; the apples altogether the cider varieties ; with occasional rows by the side of a road leading off from the main road to some château observed in the distance, about which may be seen some acres of woodland, which appears to be preserved with great care and attention, as the most important and profitable part of the property. Here it may not be amiss to remark the difference between France and England in the mode of communication, which, in the former, is almost exclusively confined to the public *chaussée* or

high road ; there being comparatively no cross roads, like those of England, by which a constant and ready communication is kept up throughout the country between one town and another. The country for miles is altogether under the plough and spade culture. There are no meadows, nor any rivers of the least consequence by which a communication by water could be kept up. At this season (late in April) the whole surface appeared under cultivation, there not being any portion set out for summer fallow. All the ground was more or less occupied, having apparently had but little labour bestowed upon it ; and I could not observe anything like the preparations for manuring which constitute so large a portion of the labour and expense in our rural districts. I here first noticed a rural guard, which is a species of armed police, stationed in the fields to prevent depredations, and, I believe, to observe closely all foot passengers who may attempt to cross the country without passing through the principal towns, where they would be required to produce their passports ; those of the natives being, I am told, more rigorously investigated than even those of foreigners. As I had again to travel during the night, it was not till the following morning that I could resume my observations. About thirty miles from Paris I first noticed the culture of the vine, which was planted in rows like our garden currants, and tied to short stakes, say about 4 ft. high, which, after the vintage, are taken up and stowed away, like hop poles with us. The vine being then cut down to an eye or two, ample space is given to clear, dig, or manure the soil. The sorts usually cultivated hereabouts are those which yield the ordinary wine of the country ; which, from the opportunities I had of tasting it, is not at all better than the cider of some districts in England. As we approached nearer to Paris, fruit orchards began to prevail, consisting of cherries, plums, gooseberries, and currants, with some of the better sorts of vines ; but no distinction appears to be made in the distribution, as they are all without any marked division to distinguish the properties ; and there is no appearance of there being any protection from depredation. The immediate approach to Paris from the Fauxbourg St. Denis resembles very much the way to London through Battersea Fields : it is certainly a larger and much more extensive plain, but cultivated, like it, in grain and vegetables for the more immediate supply of the capital.

Although my purpose, in visiting Paris, was more that of recreation than business, I lost no opportunity of observing that which interested me more particularly ; and I accordingly visited the markets every morning during my stay in the city. Paris, not having the advantage of a river navigable to the extent of the Thames, is supplied almost exclusively for its daily con-

sumption by land carriage; which gives that part of the town adjoining the market an air of great bustle and activity. Vegetables are furnished abundantly, but in small portions, by the respective growers, who live generally in the more immediate neighbourhood of the city, as I shall have occasion to explain hereafter. The markets are attended principally by females, who appear to take an active part in all kinds of business. The growers come to the city, as with us, very early in the morning; but are not allowed to remain in the markets, or rather in the streets adjoining, where the vegetables are placed or exposed for sale, after seven or eight o'clock, when the retailers, who are very numerous, commence and keep the market throughout the rest of the day. On April 29. peas from the open ground were tolerably plentiful, and asparagus abundant. There were also fine Roman Cos lettuces; a beautiful variety of green Cos, which had been preserved in frames or protected throughout the winter; and two varieties of cabbage lettuce, called *laittue gotte*, resembling much our Sicilian tester or union cabbage lettuce in its early stages. The markets appeared to be abundantly supplied with some excellent cauliflowers, which were said to have been plentiful for the last two or three weeks: also excellent cabbages of the heart-shaped variety; while Roseberry and Alpine strawberries, from the open ground, were in tolerable supply; spinach in the greatest abundance; sorrel also extensively; with a profusion of radishes, principally of the red turnip variety. There are several markets exclusively appropriated for the sale of the various articles constituting the supply to the city, such as the following: — one for potatoes, one for onions, and a third for vegetables generally. There is also a separate market for fish; and another for butter and eggs; all covered. The large market for the distant country growers is called *la Marché des Innocens*, the exterior line of which is also completely built on, leaving the interior a large square, which is every morning more or less occupied by the cultivators, and afterwards, throughout the day, by the venders of all the minor articles of general consumption. Quite distinct, and at a considerable distance from all these, is the market for flowers, on the south side of the Seine, a space 200 yards long by thirty wide, on which several rows of robinias are planted, which thrive vigorously. It is arranged into compartments on each side, and in the centre there is a supply of water in a reservoir. The plants are tastefully displayed and arranged on each side, and in compartments, and the centre: the latter portion is generally cleared by nine o'clock in the morning, to allow the ready access of company during the remainder of the day; the sale in the morning being materially confined to the dealers, who, as with us, purchase the plants, and convey them to the

more distant parts of the city. After this time the necessity of a good supply of water becomes apparent, as many of the plants have been recently potted, and others have been transposed to larger pots, in which practice the French gardeners are extremely expert. The markets are almost exclusively attended by the females, whose husbands frequently accompany them to assist in arranging the plants for sale, and afterwards return to their respective gardens to superintend and assist in the labours of the soil; the cultivation of flowers and vegetables being generally confined to the limits of the city. I must not forget to state that the plants sold in the flower market are generally the free-flowering pelargoniums, cactuses, neriums, orange trees, and other showy and fragrant species; all of which are neatly tied up, and the heads of the plants are sheltered in white paper, which is formed into a kind of cup to protect the blossoms, and yet permit them to be seen, and which improves the saleable appearance of the plants. Another portion of the quay is appropriated at this season to the sale of herbaceous and seedling plants for transplanting; and this space is occupied through the winter by the growers of fruit trees and evergreens, which are then brought to market in great number and variety.

The growers of trees and evergreen shrubs live chiefly at Vitry, a few leagues distant from Paris, where the soil is well adapted for their growth; the nurserymen and gardeners preferring to buy them when brought to market, rather than to cultivate them in the immediate vicinity of Paris, where the soil is not so well suited to their growth, and where the land is of a much higher value. The system of culture appears to be more generally divided in France than with us: first, there are the vegetable growers, who are principally resident within the limits of the city, in the part called the Marais; then the fruit growers, for the immediate supply of the inhabitants, who live just without its boundaries; and, again, those who cultivate the heavier description of vegetables, such as onions, potatoes, carrots, peas, &c., who live a few miles distant, where, of course, land can be obtained on much better terms than in or near the city. Another department of culture is that of flowers exclusively in pots for sale, as mentioned, in the flower market. Then, again, there are some few more extensive growers of roses, &c., who have also a general collection of the rarer and better sorts of plants, such as *M. Noisette*, *M. Cels*, *M. Soulange-Bodin*, *M. Laffay*, and some few others, who also cultivate roses, dahlias, &c. At Versailles, which is ten or twelve miles from Paris, camellias are extensively cultivated; but in no instance could I observe anything approaching to the extensive or business-like arrangements which are apparent in the large nurseries in England; nor the slightest approach to that extent of capital embarked in the

various departments of the trade, with the air of bustle and deep occupation so evident with us. Any attempt at such a comparison in regard to the value, quantity, and variety of business, between the respective countries, would be futile and even absurd.

Of the private collections of plants in or about Paris I can say but little, having neither leisure nor opportunity for visiting any; but the taste in them appears to be, as in the city, for showy plants, such as roses, &c., rather than for the more rare and costly species, which are to be found almost exclusively at the Jardin des Plantes. I visited the garden of M. Boursault, which is situated at the extremity of the city, almost adjoining the Barrière of Montmartre. Here I was much pleased with finding a good collection of magnolias, rhododendrons, and azaleas, and many other of what were to me interesting American species: but an extensive range of houses has been recently pulled down to make room for a more domestic purpose, viz., a vinery of the better description of grapes; and the few remaining plants are transferred to an obscure building, to which a roof of glass has been adapted. Here I found the magnificent specimen of *Araucària excelsa* which you have given a drawing of in Vol. IX. p. 147.; but which is already condemned, as the proprietor will not be at the expense of raising the roof; and it is already too large for its situation.

The most defective feature in the French gardens is the bad state of their grass plots, which they affect to be very fond of, but of the treatment of which they are either quite ignorant or very careless; as they totally neglect the only means of obtaining or even preserving them. In most instances, the formation of a grass plot or lawn is confined to sowing the surface with perennial rye grass, and only in some instances a few other varieties of selected grasses are intermixed; this must, at all times, in their dry warm climate, prove defective: added to which, they entirely neglect frequent mowing; and it is not at all unusual to find a grass plot left for the advantage of cutting the crop for hay, or as fodder for cattle. The gardeners are not all ignorant of the cause of their failure, but attribute it chiefly to the severity of their climate; though this might in some measure be remedied by their attention to the best means of obtaining an object which they all confess so desirable, and by their bestowing on it the labour and attention which are absolutely necessary to its maintenance and preservation. Having thus briefly endeavoured to portray the leading features of the system of culture pursued by our neighbours, I shall, in a future communication, attempt to convey some idea of the spirit of their horticultural enterprise as it affects their public gardens (among which is the most perfect, in its extent and variety, of any in

Europe), together with those attached to the different palaces in Paris and its neighbourhood. I have also some few observations to offer respecting their consequences on the habits of society, as they appeared to me, which, I trust, will not be considered inconsistent with the purpose of your publication, which is, if I apprehend it rightly, intended not only to improve the condition of the craft, but to diffuse a better feeling throughout all the classes of society to which its perusal is extended.

ART. III. *Flowers and Fruit.* By A. C.

I AM not, as you will soon perceive, a scientific gardener: I am but an ardent admirer of flowers and fruit; one who takes pleasure, when spring returns, to wander among the gardens, and see the lilies shooting from the ground, and the buds of the fruit trees full even to bursting. How a gowan grew into a double daisy, and a crab into an apple, was the wonder of my youth; nor was it much less of a marvel how the vine put forth its grapes, and the pine-apple sent forth its summer flavour when the snow was yet unmelted on the hills. Much has been changed by skill and science since my youthful days; and the rarest flowers and the richest fruits have, through human ingenuity, become naturalised in this cold moist island. I acknowledge the presence of much that is new; but I lament the absence of not a little that is old. Of the flowers which I loved in the year of grace 1784, two or three are gone. Some of my favourite pears, too, and apples are either lost, or have fallen away from their original beauty and flavour so much that I cannot distinguish them, either on the tree or in the basket. All this you will, perhaps, impute to my taste being changed, and my teeth being less sharp in these my latter days than formerly, and perhaps there is something in the surmise.

I have no wish to say a single sharp word regarding the gardeners — I love the old word — of these present times: they are clever and ingenious men; they have persuaded the flowers of New Holland, and the fruit trees of the tropics, that London is their native latitude; nay, Watts and Arkwright have scarcely wrought greater wonders among cockboats and cottons than they have achieved among the plants. Indeed, I am not sure but that the steam-engine and spinning-jenny should be ranked among the “many inventions” which man has found out to his own harm, and which Scripture commends not, though it refrains from reprobating them; while, on the other hand, those

who bring the flower into a lovelier bloom, and the fruit tree into richer fruit, deserve to be numbered with men who aid in fulfilling the intentions of Providence, and who, in the words of one of our latter poets, may be said to

“ Walk hand in hand with God.”

Much, however, Sir, as I reverence them, I cannot refrain from accusing them in my heart of having allowed some of the pleasant fruits which cheered me in youth to die away and become extinct. When I wander now among the orchards and gardens, and am requested to examine and to taste some newly discovered apple or competition pear, I sigh, as my teeth sink into them, for beloved fruits of the year 1784, and say, with some bitterness of spirit, what are these compared to the pear Robert, and, more savoury still, the true honey pear, to which the pastoral bard compared his mistress's lips, —

“ And oh, her mouth's like ony honey pear ! ”

But what I miss most is the glorious golden pippin; the Howard and Percy both of the whole peerage of British fruit. Gardeners, indeed, on asking for a golden pippin, will bring you one; but they bring it with a conscious look of imposition; and when they place the grey and unsavoury morsel before you, they complain of the season, and blame the cold or the drought for its dejected looks. But he who has seen golden pippins grow in the year 1784, and remembers the trees glittering with their golden and savoury loads, must sigh for the pippin of these degenerate times. Other fruits, now no more, rise on my remembrance as I write. When some of your corresponding gardeners have informed me where the honey pear and the golden pippin are fled to, I shall, it is likely, request information regarding others of their less distinguished, though scarcely less luscious, compeers, which flourished in my boyish days in the orchards of the north.

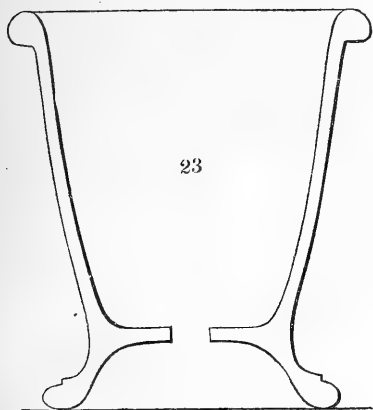
If I feel disposed to question and rebuke the brethren of the spade and pruning-knife, for having allowed those fine fruits to perish through carelessness or neglect, I feel a desire equally strong to praise them for the improvements which they have made, in forcing this cold and sterile climate to furnish us with fruits and with flowers of foreign descent. Look at the heated walls of other days, and compare them and their productions with the graperies of the present time. In the former, flues were constructed along the heart of the garden wall, through which a volume of warm smoke circulated, diffusing an unequal heat, and producing bunches of grapes little larger than sloes, and scarcely so savoury; in the latter, hot water flows freely in

pipes into every corner of the grapery, like life blood through the human figure, giving out an equal and a dewy kind of warmth, nourishing leaf and fruit, and producing clusters such as were crushed of old to make that wine called Falernian. Even the hot-house of my early days was but a better kind of heated wall. A flue, constructed of brick and covered with stone, went round the pit, and, uniting itself to the wall against which the glass sloped, took a horizontal turn or two, and then, ascending, terminated in a chimney. To produce the moisture which vegetation loves, water was thrown on the flagstones which covered the flues, and the steam, no doubt, did its duty ; but then the hot stones were often broken by the dash of cold water, and a cloud of smoke escaping, not always unaccompanied by flame, threatened to destroy all the hopes of the season.

It seems to me that the principle of forcing will yet be carried farther, though nothing can be more safe or satisfactory, nay, beautiful, than the plan of heating hot-houses and conservatories pursued by Mr. Kewley or Mr. Samuel Walker, in which hot water is made to do the duty of tropical rain and sunshine, and with far more certainty ; yet we may hope for great improvements in a discovery still in its infancy. This is one of the changes which we of the old school must acknowledge is for the better : indeed, the effect produced would, in other days, have ranked as the work of enchantment ; and I can well imagine how wide the gardener of my boyish days would have opened his eyes, had he seen Mr. Walker's hot-water pipes forcing vines into leaf, pines into fruit, and flowers into blossom. Nor is this, though safe, sure, and regular, an expensive affair : the usual price for laying down 4-in. cast-iron pipes, and putting them into working order is seven shillings a yard, and we believe they may be done for six. It is needless to say how superior this is to the early system of heating. Can you or any of your correspondents tell me whether the Romans, who made wine from British grapes, raised them by heat, or cultivated them on terraces with a southern aspect ? The climate must either be changed for the worse, like our golden pippins, or the soldiers of the eternal city must have been fellows of a curious taste and vigorous swallow, if the grapes of the open air of those days resembled the grapes of the open air now. I hope this hasty letter may provoke some other correspondent, experienced in pippins and pears and peaches, to give you the benefit of his recollections. It is not unpleasing, and I am sure it is instructive, to compare the ways of other years with the doings of our own.

ART. IV. *Notice of an improved Garden Pot.* By THOMAS CAREY PALMER, Esq., F.H.S. &c.

FIG. 23. represents a kind of garden pot made of common clay, at the cost of 4s. 6d. per cwt., many of which I have been using for the last twelve months.



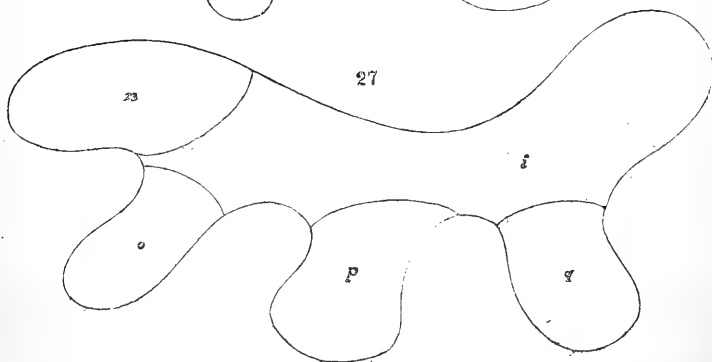
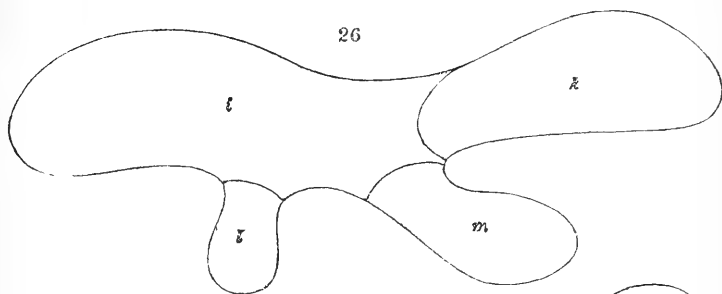
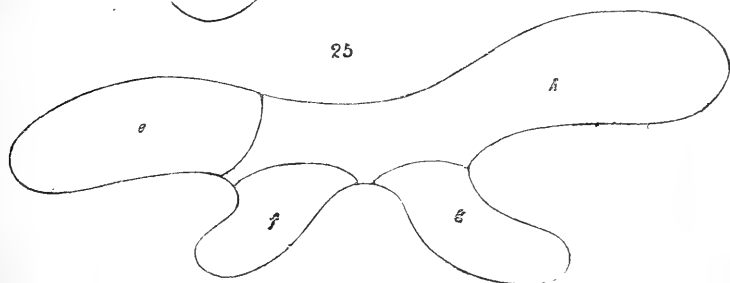
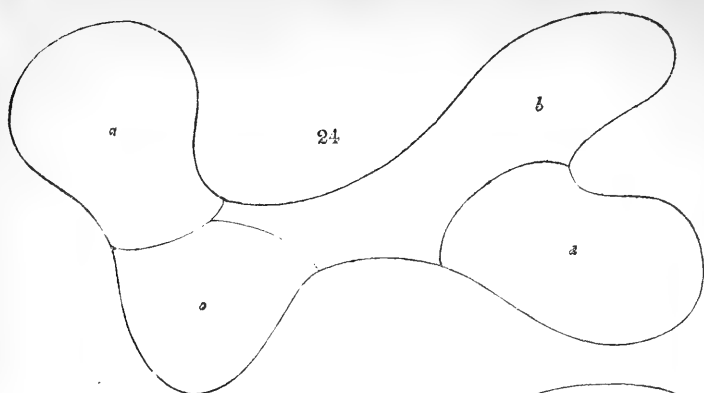
I find that they do not blow down in windy weather; that they do not allow worms to enter when standing on the ground; and that those worms which happen to be in the mould before it is put into the pot escape at the bottom hole, without, as it were, sealing it up, and making it water-logged, and, besides, without the power of entering again through the same hole; so that this pot is not only a preservative against worms, but a means of getting rid

of them where they exist in the soil, or by any accident get into it. These pots are also useful for plants which require to be protected from the approach of ants and many other insects, as they can stand in a pan of water without wetting the roots; and, although not a cultivator of heaths myself, I am inclined to think they might be beneficially used in hot weather for those plants to keep the roots cool over water without rotting them. These pots were made, at my suggestion, by Mr. Marshall, near Counter Hill, New Cross, Lewisham Road. The form is, as you know, not new; but I believe it has never been used for common pots.

Bromley, Kent, March 22. 1835.

ART. V. *On the Distribution and Choice of Trees in a Park, with reference to Landscape-Gardening.* By Mr. R. GLENDINNING, Gardener to Lord Rolle.

A PARK is a garden, or rather pleasure-ground, on a larger scale; and if the principle of arranging trees with a view to produce effect by grouping them is acknowledged in the pleasure-grounds, why should it not be equally so in the park? By assigning the proper situation of trees, and giving an outline of



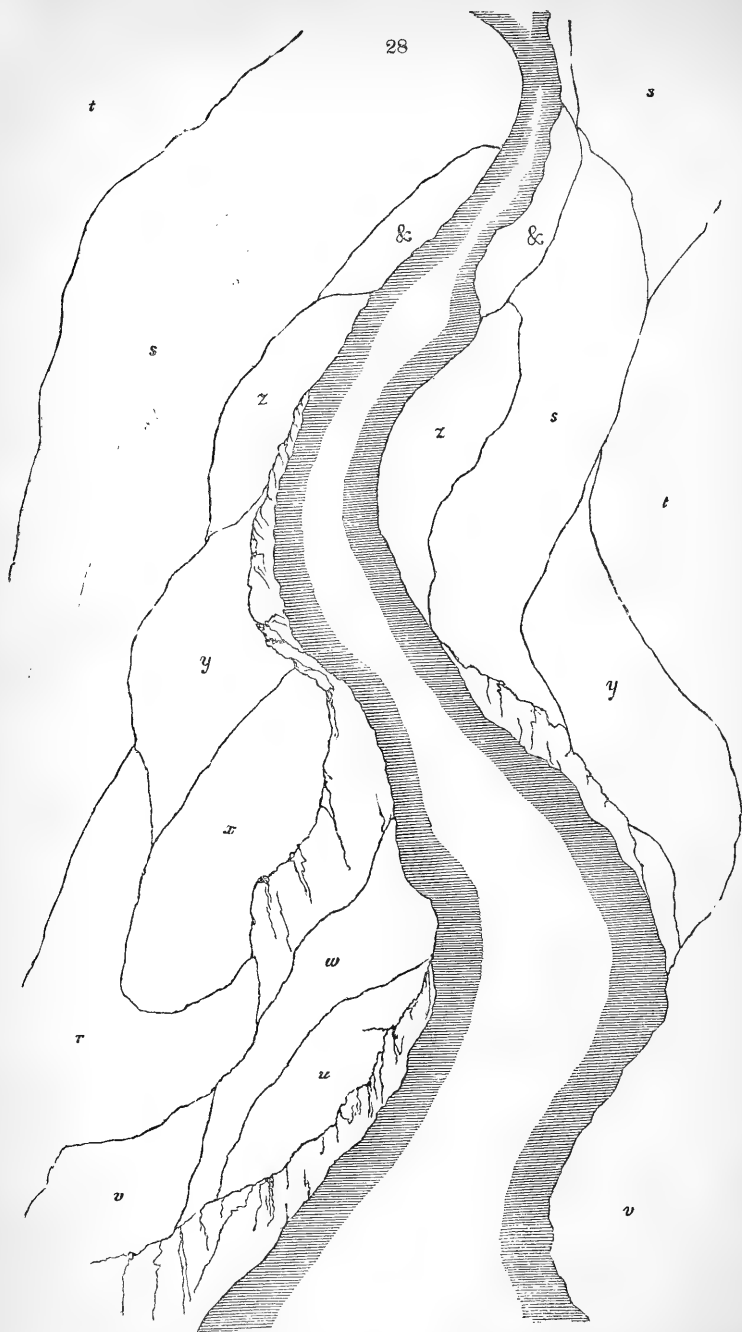
the mass that they will form, the landscape-gardener generally considers that he has finished his work. I have known, and do know, instances where clumps have been marked out, and where the proprietor, wishing to encourage the oak on his grounds, has had them planted with a promiscuous assemblage of the different species of that tree; which, thus planted, have produced a confused and bad effect — whereas a little attention to their distribution would have marked distinctly their different characters, and given a botanical interest to the whole. *Figs. 24. and 25.* will show a mode of planting the trees in masses, so as to display the effect of each species, and yet to combine the different kinds so as to form a whole. In these figures, *a* is the English oak; *b*, the Turkey; *c*, the Lucombe; *d*, the scarlet; *e*, the Fulham; *f*, the *Ilex*; *g*, the variegated English; and *h*, the cork tree.

The arrangement here shown is not perhaps the best manner of classification, and other and more imposing groups might be formed even with the oak only. Still, any such mode of planting is superior to a confused distribution; and, when it is adopted, even a common observer would be struck with conspicuous trees in plantations: the eye, in fact, of any man would be more naturally directed to a few larches on a prominent point, or to a wood of Scotch pines, than if the pines and larches were planted alternately, so as to form one mass.

There are situations where it is useless to attempt the introduction of rare trees, or even of the most important kinds of forest timber; and yet where, to form objects in the landscape, it is necessary to plant, and also where the situation is only eligible for the commoner *Coníferæ*. Thus, in the masses in *figs. 26. and 27.*, *i i* may be the Scotch pine; *k*, the larch; *l*, the spruce fir; *m*, stone pine; *n*, the pinaster; *o*, the silver fir; *p*, the Weymouth pine; and *q*, the Balm of Gilead.

Where houses are built in the midst of romantic scenery, by the sides of rivers or ravines, or on rocky eminences, the opposite and surrounding scenery may sometimes be much improved, without absolutely destroying its wild character, by the introduction and grouping of foreign as well as native plants. Thus, in *fig. 28.*, oaks may be planted at *r*, pine or firs at *s*, and beech at *t*; while for low growths there may be hazel at *u*, yellow broom at *v*, sloe thorns at *w*, scarlet thorns at *x*, rhododendrons at *y*, white broom at *z*, and double-flowering furze at *g*.

The above remarks are founded on the principle of the "Recognition of Art" so ably defined in X. 558., to which I would refer for arguments in favour of my observations; always wishing it to be understood that the same principles are at all times applicable, although governed and varied by circumstances. I have not attempted to show what can be done by the vast variety



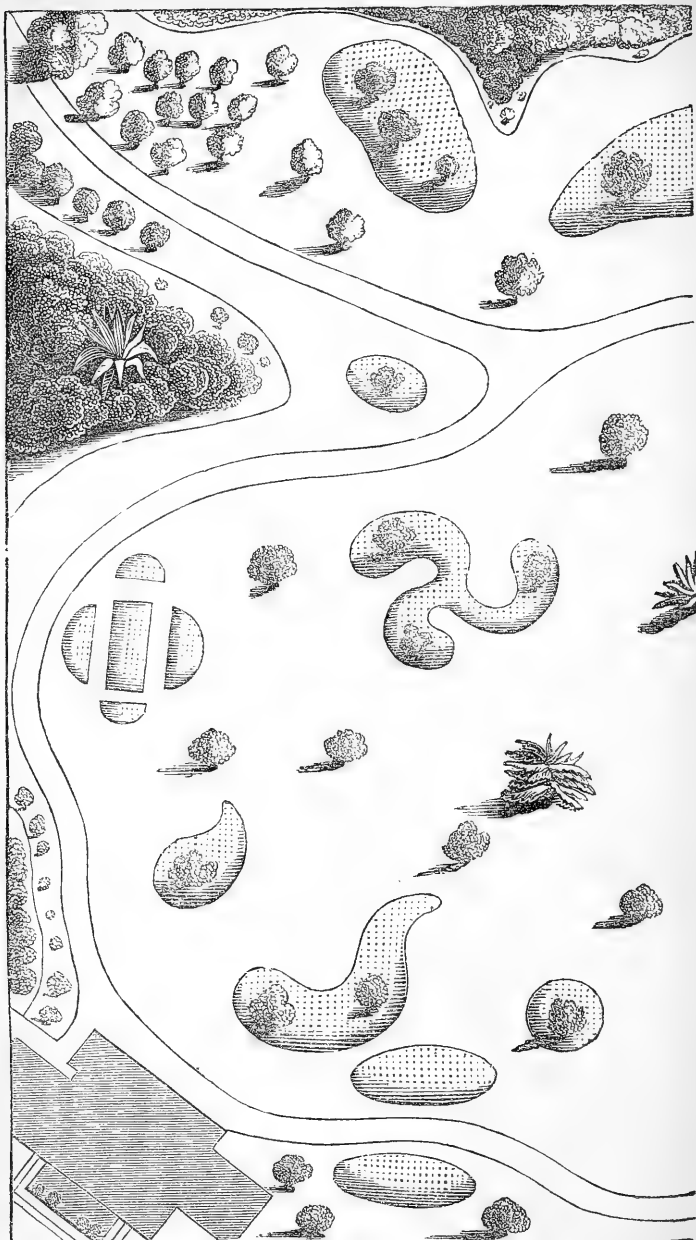
of trees of which our nurseries can boast, nor yet described a single mass, far less a series of masses, that might be produced by carrying out these principles, when a numerous variety of trees are employed.

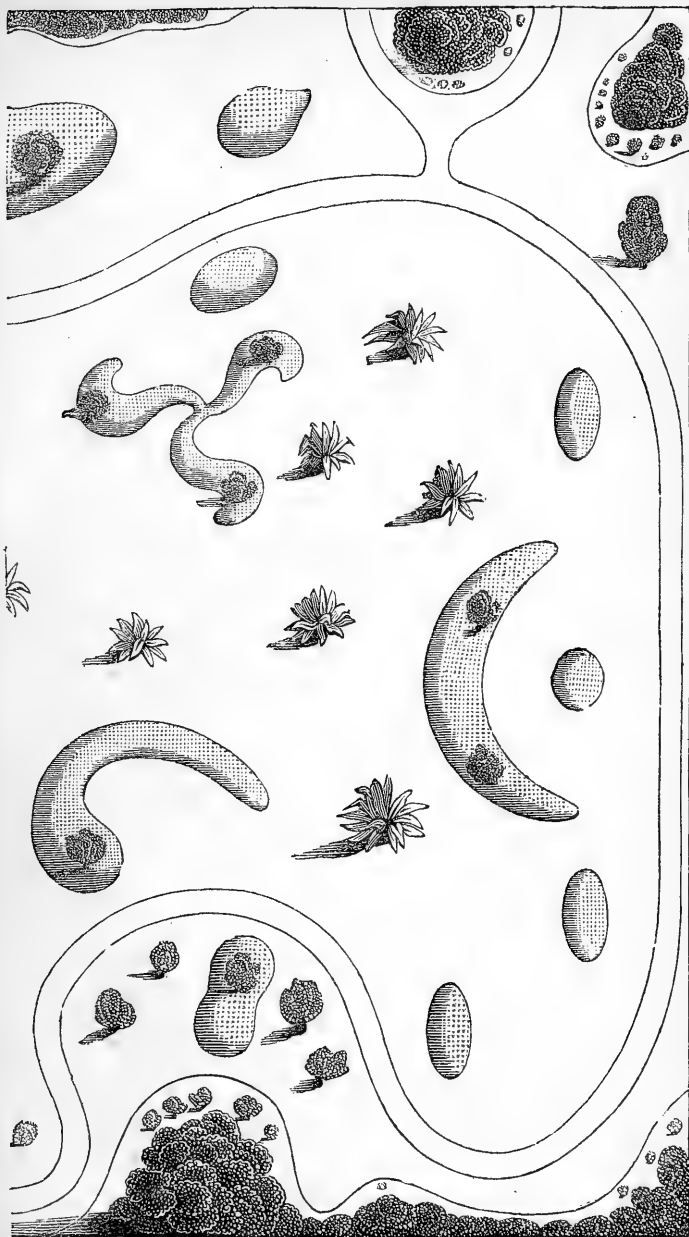
Bicton Gardens, near Exeter, February, 1834.

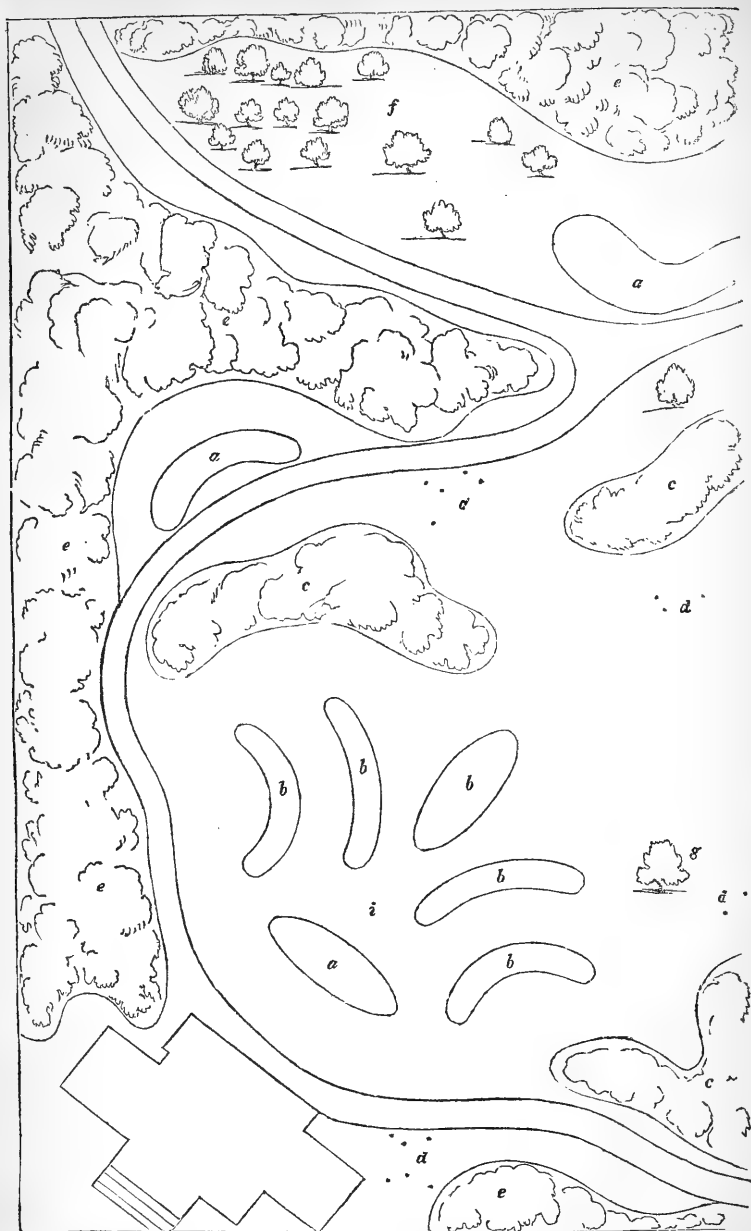
ART. VI. *A Series of Designs for laying out and planting Flower-Gardens, with Remarks on each by the CONDUCTOR.* Design 1., by FLORETUS.

IF our readers will turn to VII. 725., they will there find a notice of a plan of a flower-garden actually existing, which was sent to us for our opinion. That opinion we gave to the proprietor, together with a plan for remodelling it; but we, at the same time, with the proprietor's permission, published the plan, and invited young gardeners to send their remarks on it, with plans expressing their ideas as to how it ought to be reformed. We intended this as an exercise for young gardeners, offering a small premium for the best plan, &c. We have received half a dozen plans in competition, and we now propose to publish them, offering our own remarks on each. We consider that by doing this we shall be conveying more instruction than by merely publishing the best plan. Indeed, as a general principle, we are convinced that more instruction may be conveyed by presenting an imperfect design, and pointing out its faults, than by presenting a perfect one, and pointing out its beauties. We feel no hesitation in stating this as our opinion, because we have proved it, both in the case of designs for laying out grounds and for building dwellings. We proceeded on this principle with regard to some of the designs in our *Encyclopædia of Cottage Architecture*, and we are every month exemplifying it in the *Architectural Magazine*. The result has been, that, by pointing out to our readers gross faults, we have created a taste for the subject in many who never thought of it before, by rendering them sufficiently acquainted with its principles to become critics.

Repeating the undoubted fact, that more instruction may be conveyed by giving an imperfect design, and pointing out its faults, than by giving a perfect one, and pointing out its beauties, it seems desirable, in order to strengthen the impression, to ascertain the reason of this from the nature of the human mind. As far as we have reflected on the subject, we can only derive it from an innate principle; viz., that the perceptive faculties of the human mind, in a rude state, are more readily excited by exaggeration than perfection, and that we can more easily discover what is wanting, superfluous, or faulty, in an object, than we can what is complete. The impression made by faulty objects







a, Beds of American shrubs and roses. *b*, Beds of mixed flowers. *c*, Masses of flowering shrubs.
d, Situations where ornamental trees might be planted with advantage.



e, Surrounding shrubbery. f, Old fruit trees. g, A cedar of Lebanon. h, Remarkable yuccas.

seems to be grosser and stronger, and therefore more intensely felt by ordinary minds. The figure of the Antinous, perhaps the *beau idéal* of manly beauty, either in marble or on canvass, would attract less attention from an ordinary observer, than that of a deformed or defective figure; and the proper forms and proportions of the different parts of the body could, in the first instance, be better pointed out to such an observer by showing him their opposites in the deformed figure, than by pointing out their exemplification in the perfect one. In short, all beauty, to be perceived and relished, requires a considerable degree of cultivation in the mind of the observer; and all the qualities of objects to which we most wish to direct attention are more forcibly pointed out by contrasting them with their opposites.

Having, as we think, established the principle of the great utility of sometimes giving defective plans, in order to enable our readers to produce good ones, we shall now proceed to remark on the first design which has been sent us in competition. We shall previously, however, repeat here our engraving of the sketch originally sent to us, viz., *fig. 29*.

This is certainly a hideous plan, but it is one which has been executed; and it is not worse than hundreds of others that may be seen in different seats throughout the country. These gardens are generally the result of accident. The gardener, perhaps, has put down a bed or two, and next year is directed by his master or mistress to put down another on the lawn, in shape like one belonging to some neighbour, or to some great personage. Then, perhaps, some friend, who passes for a connoisseur, recommends something additional; and, in the end, an assemblage of forms is produced, such as that which we have before us, without congruity or harmony; and, above all, without an obvious reason for any one of them. It is quite incredible that such designs, and worse, are every year executed, even in the neighbourhood of London; but it is nevertheless a fact: and we know no method in which the evil can be remedied, but by diffusing a knowledge of the principles of criticism in this department of art among gardeners and their employers, and among the latter more especially. If the employers of gardeners possessed more taste; or, rather, if they were sufficiently competent to criticise, they would soon create a demand for gardeners who possessed more of this kind of talent; and they would also be aware of the value of employing a garden artist. At present this is by no means the case; and a proprietor, for the sake of saving ten or twenty pounds for a plan, contents himself with what is supplied by his gardener, or the nurseryman he may happen to employ. We approve highly of the plan of the gardener being adopted, where he is competent to give one; but what we insist on is, that the employers have very seldom a sufficient degree of know-

ledge of the subject, to be able to ascertain when this is the case. Again we say that the only remedy is the general diffusion of a knowledge of the principles of criticism.

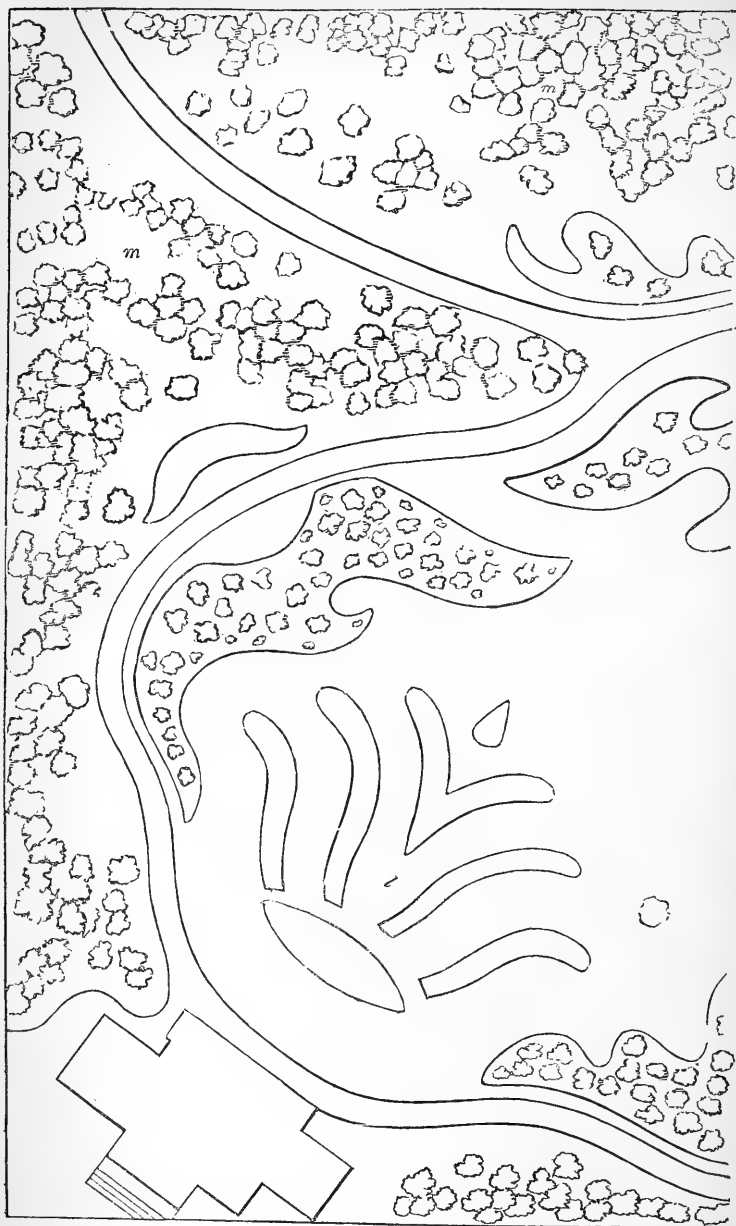
The *faults* of the plan (*fig. 29.*) are thus pointed out by our correspondent Floretus: — “1. The fantastic turn of the walks is not accounted for, or rendered reasonable, by planting, &c. 2. There is an almost total destruction of breadth of feature, from the beds and other objects on the lawn covering the whole of it. 3. The trees and bushes are badly placed and grouped. 4. The house is left too meagre, and is not sufficiently supported by planting. 5. The margin, if the plan be understood aright, appears deficient in clothing generally; but this, of course, depends upon the character of the neighbouring objects, and whether the premises join a road or roads. If data concerning the above had been given, it is probable something might have been done in the way of appropriation. It is, in my opinion, impossible to dispose of the plot in an elegant manner, and yet be compelled to adhere to the position of all the trees and bushes in the plan, which was one of the conditions prescribed. I have therefore been compelled to dispense with some of these; not because they were trees, for that would have been no fault with me, but because they prevented every attempt at grouping and disposition of the masses with a view to producing general effect.”

“As for the *merits* of the plan (*fig. 29.*), it may have some; but I am not skilled enough to find any out worth notice. From the regularity of distance observable in the disposition of the beds and bushes, I am led to conclude it was designed by some mechanic. Whether I succeed in gaining the laurels or not, you will oblige me by pointing out the faults of my sketch.”

The plan given by Floretus is *fig. 30.*, in which *a a* are beds of American shrubs and roses; *b*, eight beds of mixed flowers; *c*, masses of flowering and evergreen shrubs; *d*, dots representing situations where ornamental trees might be planted with advantage; *e*, surrounding shrubbery; *f*, old fruit trees; *g*, a cedar of Lebanon; *h*, remarkable yuccas; and *i* and *k*, symmetrical figures.

On the whole, the remarks and the plan of Floretus are good. The first fault pointed out shows a decided knowledge of the subject; and, with the second, includes, indeed, the only positive faults in the original plan (*fig. 29.*), since the three others may be explained away by reasons drawn from local circumstances.

The correction of the plan has been made on proper principles; but it has two faults: the first is, that the forms in general are too commonplace, and not sufficiently artist-like; and the second is, that the two symmetrical figures at *i* and *k* should be rather richer, and more compact and symmetrical. The irregular beds, in a plan like that before us, can only be governed in form





and position by the lines of the walks and the fancy of the artist; and hence their boundaries should be curvilinear; and always so coincident with the lines of the walk, or those of the adjoining beds, or of some other fixed object, as not to admit of being moved either to the right or left, or backwards or forwards, without deranging the harmony of the plan. All that is wanting to render Floretus competent to remedy these defects is, a great deal of practice in drawing ornamental forms. This, presuming him to be a young man, may be done from copies of ornaments of any kind abounding in curved lines, first on paper with a pencil or a pen; afterwards with a pointed stick on a garden plot, previously raked very smooth; next on a larger scale, by sticking stakes in a field; and, lastly, on a large fallow field, by walking the figure, and having the footsteps made, immediately followed by a plough and pair of horses, the ploughman keeping his eye constantly on the artist. We have ourselves traced out many miles of picturesque outline for plantation, in this way, in Wigtonshire, Perthshire, East Lothian, and Oxfordshire. What we would strongly recommend to Floretus, however, is, to draw ornaments on paper, and on the ground with a stick, for days, weeks, and months, before attempting figures in the fields. If he cannot procure engraved copies, let him first take plain leaves, then compound leaves, next leaves and stems, and then leaves, stems, roots, and flowers, and draw them on paper, and on the soil in the garden, till it becomes easy to him to delineate any object whatever; and till he feels and knows what it is to delineate an object in an artist-like manner, and what it is to produce an artist-like outline or form. It may be thought that, in requiring this, we are requiring more time and attention than young gardeners in general can afford. Possibly this may be so; but we do not believe it. Suppose a young gardener to be three years in learning his business, six or eight hours spent in drawing every week, during that period, would effect every thing that could be desired. Such a gardener would lay out flower-gardens very differently indeed from nine tenths of those who lay them out at present. Such a gardener, also, would be able to give instant proof, to any lady or gentleman intending to employ him, whether or not he was competent to lay out a flower-garden; for all that would be necessary would be, to lay a sheet of paper before him, and put a pencil in his hand. For our own part we would accept of no other test whatever for a landscape-gardener, or even for a layer-out of flower-gardens, where the beauty to be produced was of an irregular kind, than that of the competency of the artist to trace outlines, and to give reasons for every turn and for every form produced.

Fig. 31. shows the plan of Floretus, rendered what we call artist-like. It will be observed, that we have shown all the

shrubs in the beds as standing separately, or isolated from one another; the object being to admit of each particular shrub being covered with flowers from the ground upwards, as in the case of those in the garden of the Rev. Thomas Garnier. (X. 129.) We have shown no outline to the boundary plantation (*m*, in *fig.* 31.); because we consider the trees and shrubs composing it to be planted on turf; and we have shown but few detached trees on the inner lawn among the beds, supposing what are necessary, to be included in the beds of shrubs. We do not say that this is the plan that we should prefer for improving *fig.* 29., but merely that it is a very good plan. Much will depend on the height of the floor of the principal living-rooms above that of the external surface: if this is not considerable, and if the eye is not raised several yards above the symmetrical figure (*l*, in *fig.* 31.), there will be an apparent want of extent, which always gives a disagreeable impression. We shall not, however, enter into this subject farther at present, than to observe that the treatment of the foreground, or, in other words, of the lawn immediately in front of a house, must always be governed by the character of the more distant scenery, whether within the grounds or beyond them, as stated in p. 125.

ART. VII. *On the Advantages of building the Furnaces of Green-houses, and other Descriptions of Houses for Plants, within the House.* By Mr. W. ANDERSON, F.L.S. H.S. &c., Curator of the Botanic Garden, Chelsea.

THESE last thirty years we have been looking for some reforms in many of our old practices; and certainly much has been done by individuals in the way of heating by water; but it is strange that the practice of having the furnaces of conservatories and forcing-houses always in the back shed should still prevail, though no other objection can be made to having them in the house but the inconvenience arising from dust and sulphureous smells, which are also applicable to the parlour fire.

Our attention was directed to this absurdity many years back, by the effects arising from the fires being placed inside the large green-house here, which is 95 ft. long, 20 ft. broad, and 21 ft. high. This green-house has a furnace at each end, but so low as to have the flues under the floor, with a flap to go down to the fireplaces. With a fire in the end next the wind, we keep out the frost until the thermometer falls to 20°; below 20°, we apply both fires. The back, roof, and ends of this house are dark; the nine windows in front are 5 ft. high by 4 ft. broad, and are very open. This house, which was built in 1731, is the only one now remaining which those great men, Sir Hans Sloane

and Philip Miller left here; and although some hundreds of good gardeners have been sent to the first places from this garden, yet we do not hear of any one of them improving on this hint.

We apprehend that, by having the fire inside, one third of the fuel is saved, from the quantity of cold damp air consumed in the ignition; and, moreover, the fire draws in a fresh supply of air and oxygen through the laps of the glass, which is a great advantage to the plants in long frosts, when air cannot be given in the usual way; also the cold damp heavy air (which is always nearest the floor) is put in motion, and carried away by the suction of the fire the moment it is lighted.

We suspect that some objection may arise on the score of appearances; but this can always be obviated by placing the furnace under the stage, or under a flap, in the green-house and conservatory, and behind a trellis in the peach-house and vinery.

There is a very bad practice of building most of these glass houses on the level with the walk outside; whereas, if the floor in the house be raised from 2 ft. to 4 ft., it will give a good draught to the flues, and more light and air to the plants inside. It should be always remembered that every one of the plants that we protect with glass is a native of a clearer and warmer country than the "salubrious climate of Britain." The ground being thus raised will keep the roots of peaches and vines farther from a wet or an irony subsoil; and, in plant-houses, the elevation will give an opportunity for a useful frame in front for protecting plants in winter.

Botanic Garden, Chelsea, Feb. 1835.

ART. VIII. *On the different Species and Varieties of the Horsechestnut.* By M. C. R.

I MAY state, I believe without much fear of contradiction, that the different species and varieties of *Æsculus* (including *Pavia*) are very little known either by gardeners or nurserymen. The following sorts are cultivated for sale in the Fulham Nursery, viz.:—

Æsculus Hippocástanum

Hip. fól. aúr.
Hip. fól. argént.
macrostàchya
cárnea (ròsea) (rubicúnda)
Whitley's fine scarlet
americàna
pállida
Lyóni
hýbrida
púmila

Æsculus ohioénsis

díscolor
glàbra
hùmilis
flàva
Pàvia
Páv. serràta
Páv. crécta
Páv., deep scarlet
Páv., macrostàchya

It is highly necessary to remark, that we consider, here at Fulham, *Æsculus cárnea*, *ròsea*, and *rubicúnda*, to be one and the same thing, although we are informed, by the nurserymen's catalogues, that they are distinct varieties; and these sorts are sold for scarlet-flowered horsechestnuts, when, in fact, they are no such thing. The only scarlet-flowered horsechestnut that I am acquainted with is one to which we have very lately given the name of Whitley's fine scarlet; it is perfectly distinct from any other that I have named in the list: it is not so fast a grower as *cárnea*, flowers freely when young, and its buds are not glutinous, as is the case with *cárnea*. We have one fine tree of Whitley's scarlet horsechestnut, which flowers freely every year; its stem, 4 ft. from the ground, girths nearly 2 ft., and Mr. Whitley had it from America some years ago.

Of *Æsculus flàva* there are two varieties; and, I am sorry to say, the inferior-flowering variety is the most common, from no other reason than its easy cultivation compared with the better sort. Country nurserymen can raise this variety from seed, but the better sort they must procure from buds; therefore the inferior sort is always the largest stock on hand, and can be sold cheapest, which is a great object with many. I would advise every person who feels inclined to plant *Æsculus flàva* to see that his plant is a worked one, and worked with the better sort, and never to plant one raised from seed, unless he wishes to make a collection. Objections are frequently made to grafted forest trees; but, to set the matter at rest, I shall be happy at any time to show any of your readers two fine grafted or budded trees of the *Æsculus flàva*, with trunks 5 ft. and 6 ft. in circumference, growing in this nursery.

Æsculus macrostàchia flowers freely, and is a compact and erect grower. *Æ. americana* is a very good sort, with red or pink flowers. *Æ. híbrida* is desirable.

I am sorry to say that the demand for those plants has been very limited, not from the high price charged, but, in my opinion, for want of their being better known. The *Arboretum Britannicum*, I hope, will give an extensive knowledge of these and other fine trees that gentlemen at present know scarcely any thing about.

Fulham Nursery, January 9. 1835.

ART. IX. Notice of a fine Plant of *Acácia dealbàta*, growing in the open Air in the Neighbourhood of Taunton. By the Rev. W. G. DYMOCK.

IN answer to your request (p. 148.) for information respecting particular specimens of the *Acácia* and *Eucalýptus* genera grow-

ing as standards in the open air, the following may possibly be deemed worthy of insertion:—

In the spring of 1833, a small plant of the *Acàcia dealbàta* was given to me, which had been raised in a pot from seed sent from Van Diemen's Land, and I placed it in a newly made border of peat earth. It grew to about 8 ft. in height the first summer, and showed blossom in the autumn, which, however, did not expand. At the time I now write, the plant is covered with golden blossoms at almost every joint. It measures between 16 ft. and 17 ft. in height, and the trunk is 11 in. in circumference. We have experienced many sharp frosts this winter, but even the extremities of the shoots do not appear to be affected by them. The border is screened by a plantation from the north and east winds, but we have had recourse to no kind of protection whatever. The bark of the trunk is still green, and has the appearance of a whitish bloom, similar to that upon some kinds of fruit. I intend to plant out the *A. lophántha* this spring, in order to try how it will stand the winter under similar circumstances of situation, &c. &c.

Hatch Beauchamp Parsonage, March 11. 1835.

ART. X. *Notice of the rapid Growth of some young Trees, at Knedlington, near Howden.* Communicated by THOMAS CLARK, Esq.

I SEND with this a list of trees now growing in my plantations at Knedlington, and none of them as single trees. The American ones were raised from seed by Mr. Cobbett, and bought by me from him; they are most of the age of eight or ten years, from the seed. Many more specimens of all the kinds, except the hickory, might have been selected of about the same size. The other trees, with the exception of the *Plátanus*, were raised from seed here, but have been transplanted from the seed bed to where they now stand. Those selected for measuring were not particularly fine ones.

Liriodéndron Tulipífera, ten years from the seed: height, from 14 ft. to 16½ ft.; diameter of the trunk, 1 ft. from the ground, from 2½ in. to 4 in.; diameter of the space covered by the branches, 5 ft.

Robínia Pseùd-Acàcia, ten years from the seed: height from 26 ft. to 28 ft.; diameter of the trunk, 1 ft. from the ground, from 6 in. to 8 in.; diameter of the space covered by the branches, 14 ft.

Robínia Pseùd-Acàcia, eight years from the seed: height, 23 ft.; diameter of the trunk, 1 ft. from the ground, 4 in. to 5 in.; diameter of the space covered by the branches, 10 ft.

Cérusus virginiana, ten years from the seed : height, $14\frac{1}{2}$ ft. ; diameter of the trunk, 1 ft. from the ground, $3\frac{1}{2}$ in. ; diameter of the space covered by the branches, 9 ft.

Liquidámbar styraciflua, ten years from the seed ; height, 11 ft. ; diameter of the trunk, 1 ft. from the ground, $2\frac{1}{2}$ in.

Jùglans nìgra, ten years from seed : height, 17 ft. ; diameter of the trunk, 1 ft. from the ground, from $3\frac{1}{2}$ in. to 4 in. ; diameter of the space covered by the branches, 6 ft. to 11 ft.

Jùglans nìgra, eight years from the seed : height, 14 ft. ; diameter of the trunk, 1 ft. from the ground, 4 in. ; space covered by the branches, 7 ft.

Càrya álba, ten years from the seed : height, 10 ft. ; diameter of the trunk, 1 ft. from the ground, 3 in. ; space covered by the branches, 5 ft.

Quércus tinctòria, ten years from seed : height, from $14\frac{1}{2}$ ft. to 15 ft. ; diameter of the trunk, 1 ft. from the ground, $2\frac{1}{4}$ in. to 3 in. ; diameter of space covered by the branches, 8 ft.

Quércus coccínea, ten years from the seed : height, from 14 ft. to 16 ft. ; diameter of the trunk, 1 ft. from the ground, $2\frac{1}{2}$ in. ; diameter of the space covered by the branches, 11 ft.

Quércus Cérris, seven years from the seed : height, 12 ft. ; diameter of the trunk, 1 ft. from the ground, $2\frac{1}{2}$ in.

Gledítschia triacánthos, ten years from the seed : height, 13 ft. ; diameter of the trunk, 1 ft. from the ground, $2\frac{1}{2}$ in. ; diameter of space covered by the branches, 9 ft.

Plátanus orientális, eight years from the seed : height, 14 ft. ; diameter of the trunk, 1 ft. from the ground, 3 in. ; diameter of space covered by the branches, 10 ft.

Fráxinus excélsior, nine years from the seed : height, 20 ft. to 21 ft. ; diameter of the trunk, 1 ft. from the ground, 3 in.

Ulmus montàna, ten years from the seed : height, 13 ft. ; diameter of the trunk, 1 ft. from the ground, 4 in. ; diameter of space covered by the branches, 8 ft.

The ground was trenched a short time previous to planting, to the depth of 3 ft. : the soil is generally a sandy loam, on a substratum of clay or sand.

Knedlington, near Howden, Yorkshire, Dec. 27. 1834.

MANY persons have expressed their surprise at the extraordinarily rapid growth of the trees in the arboretum of the Horticultural Society's Garden at Chiswick, but those in the Knedlington plantation, as will be seen above, far surpass them. It is true, the soil there, as well as at the Chiswick Garden, is of a very suitable description for trees, and we believe the climate at Howden is moist rather than otherwise ; still, under any cir-

cumstances, the progress made by these trees in ten years from the seed is well worthy of being recorded, as an encouragement to planters. We may here remark, that one effect of such excellent soil and rapid growth on trees and shrubs is to alter, to an extent varying in different species, the character which the tree or shrub has in its wild state. Thus, in the Chiswick Garden, the *Acer campêtre*, the Scotch pine, the buckthorn, the dogwood, &c., have a character almost as different from that which they assume in their native habitats, as the character of a garden apple is different from that of a crab. This is a general effect of cultivation on almost all plants, ligneous as well as herbaceous, though it is much more frequently observed in the latter than in the former. We have since received a second communication on the subject, which will appear in a subsequent Number. — *Cond.*

ART. XI. *Cautionary Remarks on Mr. Henchman's Paper on the Culture of Orchideæ.* By H. P.

HAVING read the interesting communications on the subject of Epiphytal Orchideæ, by my friends Mr. Glendinning (p. 136.) and Mr. Henchman (p. 113. and 137.), I hope the latter will excuse me when, as a practical gardener, I state my objections to some of his hints, not in opposition, but as an admonition regarding the effects those hints are likely to produce, as they must lead those unacquainted with the subject to suppose that we are ignorant of any successful mode of cultivating these plants. A few months' residence in their native climate cannot warrant him in making light of ascertained facts regarding what these plants are capable of enduring, and the circumstances under which they are found to flourish in an artificial climate. There are no greater difficulties attending their cultivation, than those we yet encounter in other families with which our fathers were acquainted; in almost all choice tribes we find many species impatient of cultivation, and but shortlived, under any advantages the gardener can command.

Mr. Henchman's directions are, with little variation, what have been often tried, and as often abandoned; that is, that, to insure success in the cultivation of tropical plants, we have only to attempt an imitation of their native climate. But it must be evident, that many circumstances which are most favourable to their habits, in their native climate, are beyond even our attempts at imitation; and it is also evident, that, while we endeavour to imitate, as nearly as we can, the variations in temperature and humidity, so great a contrast exists between the other parts of our practice

and those congenial and inimitable parts of Nature's harmonious scheme, that our practice must be far from natural. Those who act on the idea that the more closely we attempt to imitate nature, the greater must be our success, will find in this family, and in almost all plants of peculiar habits, that their practice will end in disappointment. Common sense has pointed out a better practice, in substituting from our available resources equivalents to those natural advantages we cannot command; and, as far as possible, rendering the plants independent of what we cannot procure for them.

Those Orchideæ that grow naturally on trees in the East or West Indies are proof against injury from excess of moisture; but the majority of species, if not partially shaded, would be destroyed by the scorching rays of the sun; whereas those growing in soil at the foot of the trees have no chance of injury from the latter cause, but will, in general, be injured or destroyed by excess of moisture during the periodical rains. Now, the majority of the most beautiful species yet introduced grow freely in pots in suitable soil and a congenial atmosphere: for instance, an open, turfy, peat soil will shelter and nourish their roots, and by its modifying the light we may avoid the evil of the plant being injured by the intensity of the sun's rays, and we have no cause to imitate the periodical rains to the extent of injuring the species by excess of moisture, as this is found to be unnecessary.

Mr. Henschman's observations confirm our experience, that "pieces of wood," except in a living state, are unfit for supporting the majority of species in a flourishing state; although it may be found that a few species will do best on wood, and those chiefly of the small-flowered tribes. Among the caulescent species, which are chiefly Oriental, many are advantageously grown on wood, as *Renanthera*, *Vanda*, &c. But the various species of *Cattleya*, *Stanhopea*, *Zygopetalon*, *Maxillaria*, *Corysanthes*, the majority of *Oncidia*, and many others, flourish in pots equally to their native luxuriance; in short, in the collections of this country are to be seen, flourishing in pots, species sufficient to represent all the varied beauty of this favourite tribe with which we are yet made acquainted.

There have lately been various displays of learning to show the advantages of allowing a much lower temperature in our stoves during the night than is commonly practised by gardeners; but the wisdom of this opinion is doubtful, although, no doubt, some may go, on the contrary, so far as to allow but little variation during the twenty-four hours.

Mr. Henschman's directions regarding temperature may be very suitable for established plants of the more hardy species; and his

general plan, if acted upon, may be favourable for bringing several species into flower; yet, in many instances, they are the most abundant and free-flowering of plants. I might go into detail respecting soil, temperature, &c., but the patience of your readers is no doubt already exhausted, and I shall only apologise to those little interested in plants, and thank Mr. Henchman for his interesting papers, and express my hope he will favour us with a few hints on one of the most interesting of all subjects, the uncultivated tribes of the human race.

Lancashire, March 15. 1835.

ART. XII. *On the Culture of the Pine-apple, as practised by Mr. Dowding, at Oakhill, East Barnet.* By Mr. ALEXANDER FORSYTH.

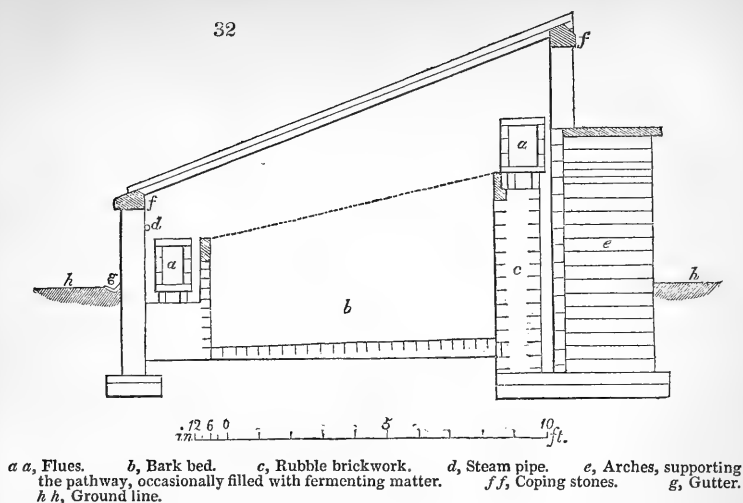
IN order to render the following remarks on the culture of pines here more intelligible to your readers, I consider it necessary to premise a few particulars.

Our stock, comprised of nearly equal complements of green and black pines, averages about 1200, and we fruit about 500 annually. The sorts we cultivate are Queens, Providences, Jamaicas for the principal stock, and Antiguas, Envilles, Brown and Striped Sugar-loaves, Globes, and Antigua Queens; but of these latter sorts we have only a few specimens. Our nursing and growing departments are pits, 7 ft. deep at back, 6 ft. wide, and sloping at an inclination of one foot in three, heated by fermentation, having no fire-heat apparatus. Our principal fruiting-pits (*fig. 32.*) are each 40 ft. long, heated by one fire, and supplied with steam, conducted along the front wall, a little above the flue, through an iron pipe of one inch bore, from a portable boiler. The sashes, composed of a wooden frame with copper stiles, and glazed with crown glass, are supported on cast-iron rafters. Shutters, composed of reeds fixed in a wooden frame, to fit on each light, which are used in cold nights, give our pits the appearance of thatched cottages. As fermenting ingredients, we use, for linings, tan, dung, and leaves; and, for beds in the pits, tan only. As fuel, we use coke from the gas-works, with a little coal and brushwood in kindling, and wet coal ashes in moderating the fires. This is far preferable to coals, being a cheaper and cleaner fuel, and making more efficient and easier-managed fires.

In watering and sprinkling, we use pure water, pumped into a leaden cistern, and exposed at least one day to the sun in summer; and from tanks, &c., in a tepid state, from the forcing-houses, in winter.

We destroy worms in the pots by watering with lime water,

32



in the proportions of one bucketful of lime to three of water; and, in the tan around the edges of the bed, by stirring powder lime into the infested tan. Insects have been eradicated from young pine plants here by immersing them thirty-six hours in water medicated with soft soap, in the proportion of four ounces to a gallon.

We are extremely careful at all times to supply any want of heat, air, or moisture, and control their extremes; as also to remove all obstacles that might hinder the full action of light, especially in winter: to effect which, we are obliged, sometimes more than once, during winter, to take off the lights, and clear away a green glutinous substance that collects inside about the laps of the glass; using a scrubbing-brush and a piece of coarse flannel, with plenty of water, for the purpose.

We never tie up the leaves of pines in moving the plants, being persuaded that the leaves of any well-grown pine plant cannot be tied up without injuring them: neither can the height of a plant be so well determined, nor the side that has been inclining towards the sun so well reversed in plunging, when the leaves are tied up, as when they stand in their natural position.

Jamaicas are esteemed here as being the best for maturing perfect fruits in the winter months. The plants of this species are of lazy growth, impatient of disrooting and shifting, and not easily started into fruit before they attain a good size. Their fruits, also, are heavy in proportion to their bulk; and, unlike many others, they will swell their pips flat at all seasons.

During the time that our pine plants are without roots, whether crowns, suckers, gills, or stools fresh potted, or plants disrooted, we prefer keeping them in a close moist atmosphere, at a temperature not under 65° by night, nor over 90° by day, shading them from the scorching rays of the sun, with a bottom heat (at least till the roots have reached the sides of the pots) of 100° .

Late suckers have been successfully wintered here, stuck in a layer of half-spent bark, on a bed of good tan, in a pit near the glass. The greatest defect in this system is, that the plants are apt to get down too far from the glass, unless the frame or pit be movable, and made to sink and follow them.

Good Jamaica suckers generally mature their fruit here in two years, Providences about two months less, and Queens in from sixteen to eighteen calendar months.

In starting pine plants into fruit, we simply increase the temperature, keeping up a moderate supply of moisture; the starving, parching, and scorching system of starting pines, formerly practised, being now, by all good cultivators, generally discarded; for examples are not wanting of large fine plants, which had been thus starved, &c., whilst the fruits were ready to emerge from their sockets, showing crowns, on straw-like footstalks, without a pip at all.

In winter we often admit fresh air into our pine stoves for other purposes than counteracting heat; as to prevent drawing and blanching, by allowing the condensed steam to escape, and to dry the plants.

The fruits having been cut (say off Providence plants) and no suckers appearing, we shake them out of the pots, pick off a few of their lower leaves, and shorten the rest; then cut off 2 in. or 3 in. of the stump to which the old roots are attached, and pot the stools in 32-sized pots, and treat them as suckers, when they will produce two or three races of suckers; and by this method we generally increase our stock of the shy-breeding black sorts. By coxcomb crowns, also, we increase the Providence tribe rapidly. From gills (suckers on the footstalk of the fruit) potted in thumbs, or 60-sized, after a length of time, we obtain good plants.

Suckers, crowns, or gills, being got, are laid in some convenient space in the stove, to dry for a few days; after which we pare off the ragged part of the stump of suckers, and pick off as many of the lower leaves of both crowns and suckers as seem necessary, in order to fasten the plant in the pot, and then pot them in pots proportioned to their sizes; if above a foot long, in 32-sized, and so of the rest, to a gill of an inch long in a thumb pot. The soil used for this purpose is generally pure loam, with about one eighth silver sand. Being potted, they are wintered,

as detailed of our practice for Queens (p. 20.); and, in the month of March, every rooted succession pine plant not in a fruiting-pot is turned out of its pot, and has its roots examined and shortened, according to its age and sort, and the end it is expected to serve. Young plants of green pines we disroot freely; older ones now about to be shifted into fruiting-pots, expected to mature fruit late in autumn, if the roots are lively, are potted now, preserving their balls entire; Providences, Envilles, &c., we disroot moderately, carefully cutting off any dead or sickly roots, and, by means of a pointed stick, removing all sodden and wasted soil. In shifting Jamaicas, we are careful to preserve every living fibre of root, yet we displace from their balls all drainage and worthless soil before repotting them.

Being potted, they are plunged about two thirds in a bottom heat of not less than 95° , and the temperature of their atmosphere gradually increased (say March 22., 65° at sunrise, and April 11., 70° at sunrise; the maximum, June, 90°). As to the time of shifting again, that the state of the plants must determine; say June 1., and, again, the middle of August; a uniform bottom heat of not less than 90° being kept up throughout, maximum 100° , minimum 70° . In the evenings of bright sunny days we sprinkle the internal surface lightly with a fine rose, to resemble a heavy dew.

As the season declines the temperature is lowered, and the standard for winter is fixed at 60° . Say Nov. 1. the fruiting-pits are filled with the best of the plants in fruiting-pots that were potted in August; the bark bed having been previously filled with tan (if not all new, new being far preferable, at least all good), warm and well trodden, and the pots plunged about 2 in. with tan laid up between them, to be levelled around the pots as the heat declines, without disturbing the plants. When they are wanted to start into fruit, expected to be matured by June 1., we begin by increasing the minimum temperature, say on Dec. 10., to 65° ; on 17th, to 70° ; and on 31st, to 75° ; which temperature is maintained till the fruits appear emerging from their sockets, with a rise of 4° by day with artificial heat, or with sun heat 10° . The fruits being in sight (say Jan. 10.), we reduce the night heat to 72° till they have done flowering (say March 5.), keeping the atmosphere moist, and supplying them with plenty of water at their roots, and reducing the temperature (fire heat being injurious to fruit swelling) to 70° minimum, maximum 110° , close and moist. We raise the bottom heat, if possible, to 110° , by moistening the dry surface of the bed, and filling in more fresh tan between the pots; to facilitate which, the pots are plunged in rows across the bed. During the time that the fruits are swelling, sprinkling is particularly attended to: as the fruits begin to

change colour, plenty of air is admitted, and all sprinkling is dispensed with.

Under this mode of culture are obtained splendid specimens of pine fruits at all seasons; which, though inferior in size to the twelve or fifteen pound specimens grown elsewhere, may rank as a generally fine crop with that of the first cultivators of the day, taking the age of the plants into consideration. The fruits of 100 plants contained in a pit here, weighed, when cut, each from 5 to 7 lbs.

Oakhill Gardens, East Barnet, Jan. 1835.

ART. XIII. *Floricultural and Botanical Notices of newly introduced Plants, and of Plants of Interest previously in our Gardens, supplementary to the latest Editions of the "Encyclopædia of Plants," and of the "Hortus Britannicus."*

Curtis's Botanical Magazine; in monthly numbers, each containing eight Plates; 3s. 6d. coloured, 3s. plain. Edited by Dr. Hooker, King's Professor of Botany in the University of Glasgow.

Edwards's Botanical Register; in monthly numbers, each containing eight plates; 4s. coloured, 3s. plain. Edited by Dr. Lindley, Professor of Botany in the London University.

Sweet's British Flower-Garden; in monthly numbers, each containing four plates; 3s. coloured, 2s. 3d. plain. Edited by David Don, Esq., Librarian to the Linnæan Society.

PLANTS DICOTYLEDONOUS, POLYPETALOUS.

XXII. Berberideæ.

1090. *BERBERIS* § Leaves simple, evergreen. Flowers in racemes.
dealbata Lindl. whitened-*lfd.* ☼ or 6 ap Y Mexico 1833? L 1p Bot. reg. 1750

An evergreen species, 4 ft. to probably more than 6 ft. high. The branches are nearly destitute of prickles, are of a purplish brown colour, and but thinly invested with leaves: these are upon short footstalks, are of a roundish figure, towards an inch in breadth, convex, and sparingly toothed in the margin; the teeth end in prickles; the leaves are, in texture, coriaceous, and are covered with a sort of bloom, and their under surface is very white. The flowers, yellow, are disposed into remarkably dense nodding clusters, which are not much longer than the leaves. Fruit not known to Dr. Lindley. The London Horticultural Society has obtained *B. dealbata* Lindl. from Mexico. Dr. Lindley has deemed it "probably hardy" in Britain. (*Bot. Reg.*, April.)

LXXXVIII. Euphorbiaceæ? Bombaceæ Dec.

2002. *PLAGIANTHUS*?
sidoides Hooker Sida-like ☼ □ cu 3 s Ysh V. Diemen's Land C p1 Bot. mag. 3396

An unshowy twiggy shrub, 2 ft. to 3 ft. high, slightly branched; leaves lanceolate, 2 in. long, strongly serrated, wrinkled with

netted veins, and downy; flowers small, axillary, in little groups; corolla of a yellow so pale as to be near to white. It has the habit of some of the Australian *sidas*; but the structure of the flower is “entirely that of the New Zealand *Plagiánthus divaricátus*.” The late Mr. Lawrence sent native seeds of it from Van Diemen’s Land to the Glasgow Botanic Garden, where it produced its small and unobtrusive flowers in the green-house in Sept. 1834. (*Bot. Mag.*, April.)

PLANTS DICOTYLEDONOUS, MONOPETALOUS.

CLXX. *Ericàcææ*.

1345. *ARBUTUS*. [west coast of North America 1835. L s.1 Bot. reg. 1573
11075a procëra Douglas tall ❸ — or 15? my Gsh. W Mountainous woody parts of the north-

Resembles *A. Andráchne*: but differs from it altogether in the form and serratures of its leaves, and in the form and size of its flowers: the corollas are of a delicate greenish white. It requires to be carefully protected from extreme cold in winter, and succeeds best against a west wall. Figured from the nursery of Mr. Osborn, Fulham. (*Bot. Reg.*, April.)

“*Arbutus Milleri* is a new variety which has been raised at the nursery [of Mr. Miller, Bristol] by seed from the scarlet [corollaed] variety of [*Arbutus Uñedo*] the common arbutus, and *Arbutus Andráchne*. [It is meant, doubtless, that the ovule of that particular seed of the one of the two species named, from whose seed *Arbutus Milleri* has arisen, had been imbued with the pollen of the other species: to which species the seed was respective, or to which the pollen, is not stated.] It is far superior to any other variety with which we are acquainted. Its flowers are of a delicate pink colour, with broad leaves; and it is altogether a fine ornamental shrub, and will be a great acquisition to the pleasure-ground. It has been flowering finely, but its bloom is now [early in Dec. 1834] almost over.” (*Mr. M. Mayes, in The West of England Journal of Science and Literature*, Jan. 1835.)

1339. *RHODODENDRON indicum D. Don.* *Azàlea indica L.*
[phœniceum ♂] 1830. C. p.1 Sw. fl. gar. 2. s. 284
var. speciosum D. Don showy-corollaed ❸ — spl 4 my P Eng. hybrid (indicum ♀,

“This splendid variety was raised at Coombe Wood, the seat of the late Earl of Liverpool, by Mr. William Smith [now nurseryman at Norbiton Common, near Kingston, Surrey]. It was raised, in 1830, from seeds obtained from *R. indicum* (*Azàlea indica*) that had been impregnated with the pollen of *R. phœniceum* (*Azàlea indica phœnicea*). It is nearly hardy, and a very free flowerer, beginning to blossom about the 1st of May. . . . Figures 1. and 2., in our plate, represent the flowers of two other varieties raised from the same stock of seeds; one of them frequently becoming semidouble.” (*Brit. Flow.-Gard.*, April.)

PLANTS MONOCOTYLEDONOUS.

CCXXXVIII. *Amaryllidæ*.

Hybridisation may be practised continuously through several successive Generations in certain of the Amaryllidæ. — “*Amaryllis striatifolia concinna* [Mayes], as we [Mr. M. Mayes of Bristol] have named it, is a new variety, and the first which has bloomed out of a number of young seedlings presented to Mr. Miller, in the spring of 1833, by the Rev. Dr. Swete of Redland, who is a very successful cultivator of this truly magnificent family of plants. The seed was saved by Dr. Swete, in Sept. 1832, from *Amaryllis semperflorens*, fertilised with the pollen of *A. superba*; and the plant, which has now [early in Dec. 1834], for the first time at the Bristol Nursery, opened into bloom, is a splendid and distinct variety. It has a fine head of flowers of a bright rosy-red colour, with a broad white stripe extending from the base to the point of each petal, and is very finely scented, like *A. vittata*; its leaves, also, are beautifully striped with greenish white, and are elegantly reticulated on their upper surface. It should be noticed that both the parents of this variety of *Amaryllis* are themselves hybrids: *sempervlorens* being a hybrid between *A. acuminata* and *A. vittata*; and *superba* between *A. Johnsoni* and *A. striatifolia*; and in this plant we can trace the intermixture of this, which may be termed a double hybrid, possessing the scent of *vittata*, the white stripes as in *striatifolia*, and the admixture of all in the shape and colour of the bulb, the foliage, and the flowers; yet its general appearance is very different from that of either of its parents. With the production of new hybrids, from seed, of this interesting tribe [the author probably meaning more genera than the genus *Amaryllis*], we may go on without end. He who is in the possession of eight or ten distinct hybrid species may soon, with care, increase them a hundred-fold, by fertilising them one with the other. It has been stated that hybrid plants will not produce seed: but, in the case of this lovely tribe, there seems to be no limit; for we are satisfied that they will bring their seeds to perfection, even through many generations of hybrids. Again, it has been said that these varieties would retrograde into their original species: we only know that many of them would, in such a case, have a most intricate journey to perform. Many of these hybrids will produce seeds if fertilised with their own pollen, though not by any means so abundantly as [if fertilised] with the pollen of others; but they will give rise to precisely the same as their prototypes in every respect; so that the variety may be continued by seed as well as the species. Neither the species nor the hybrids will, we are well aware, produce seed so abundantly from their own farina as from that of others; and there are several that will not produce perfect seeds under any

circumstances. With respect to hybrids, it may be mentioned that they will not spring all alike from the same capsule of seed, but will vary [be various], some more resembling the one, and others the other parent." (Mr. M. Mayes, in *The West of England Journal*.)

CCXXXIX. *Iridææ*.

128. GLADIOLUS. [Sw. fl. gar. 2. s. 281
†1188a? natalensis Reinwardt Natal ♂ Δ spl 4 au S.Y Banks of the Natal river 1830. O p.1
G. psittacinus Hooker in Bot. Mag. 3032.; G. natalensis Reinwardt, Hooker in Bot. Mag., in a
note in 3084.; G. psittacinus Lindley in Bot. Reg. 1442.

See VIII. 22. We notice this species again, mainly for the sake of making clear, in the following quotation, the meaning of the words Natal and natalensis. The species is "a native of the banks of the Natal river, which falls into the Indian Ocean in about 29° 30' south latitude; and which constitutes the northern boundary of a country (now forming part of the Cape colony) of the same name [Natal] on the south-east coast of Caffraria; and so called by the Portuguese navigators, who discovered it, on Christmas day [the natal day of Christ], in the year 1498." (*Brit. Flow.-Garden*, April.)

CCXL. *Orchidææ* § *Epidendrææ*.

LÆLIA Lindl. [Bot. reg. 1751
anceps Lindl. two-edged-scaped £ [] el 1½ d Pa.P.Dp.P.Y Mexico 1833? O p.r.w

Equal in beauty to any of the cattleyas; has a far more graceful mode of growth, in consequence of its slender scaly stems from the point of which the flowers swing; and diffuses an agreeable fragrance. Messrs. Loddiges have introduced it from Mexico. Two flowers are depicted on one scape. The sepals, which expand spreadingly, span a width of 3 in. or more; they and the two petals are of a pale lilac colour; the central lobe of the labellum is of a deep purple, the mouth of the tubular part yellow and white. (*Bot. Reg.*, April.)

2483. HABENARIA. [Bot. mag. 3397
goodyeroides D. Don Goodyera-like 3 [] or 1 d W Bombay Nepal 1834. O p.1

Stem 1 ft. high. Leaves elliptical-lanceolate, striated, waved, of a satiny green lustre, spreading. Peduncle terminal, bearing the flowers in a dense spike, about, according to the figure, 3 in. long. Flowers small. Petals white. "A rare and interesting plant." It has been found in Nepal and Bombay; and Dr. Hooker has inferred that it probably inhabits the interval. Figured from the Glasgow Botanic Garden, to which place Joseph Nimmo, Esq., had communicated it from Bombay. (*Bot. Reg.*, April.) *Pterostylis acuminata* and *concinna* are figured in the *Bot. Mag.* for April: both from the Kew collection.

2525. BRASSIA. (William Brass, a skilful botanical traveller and draughtsman, who collected seeds, plants, and dried specimens, on the Guinea coast, for Sir Joseph Banks, Dr. Fothergill, and Dr. Pitcairn.)

Lanceana Lindl. Lance's £ [] el ¾ fau Y.Spot Surinam 1833. D leaf mould Bot.reg.1754

Pseudo-bulbs compressed, thin, furrowed; leaves oblong, lanceolate, strongly striated; scape produced from the site of the

root, bearing in its upper portion a raceme of lovely flowers, which are large, yellow, spotted with purple, and yield an exquisite fragrance, which resembles no odour so much as that of newly gathered cowslips and primroses. J. H. Lance, Esq., found *B. Lanceana* Lindl. upon trees, in woods of Surinam, and presented it to the London Horticultural Society, in 1833. The drawing figured was made last August in the collection of Messrs. Loddiges. (*Bot. Reg.*, April.)

2530a MONACHA'NTHUS. [D p.r.w Bot. reg. 1752
viridis Lindl. green-flwd.  or 2? n G.Y Brazil ("in the Corcovado") 1830?

See in p. 147. It is, when without flowers, so similar to *Cata-sètum tridentatum*, as to seem the same. Its flowers, borne in an erect raceme, are in texture fleshy, in colour green, with the exception of a yellow margin and interior to the cowl-shaped labellum, and some obscure purple spots on the petals. — Figured from a specimen communicated from Wentworth Gardens. It appears that it is not known by whom, or at what time, this species has been introduced to Britain. (*Bot. Reg.*, April.)

CCXLVII. *Asphodèleæ*.

1020. DRACÆ'NA. [C r.l Bot. reg. 1749
†8467 terminālis Jac. terminal-inflorescenced  el 12 mr W South Sea Islands 1820.

"One of the most graceful of arborescent stove plants. In appearance it resembles a palm." Its root (? rootstock) is large, woody, and fusiform; the natives prepare materials of food and drink from this. When the root (? rootstock) is first dug out of the ground, the matter of which it is composed is hard and fibrous, almost tasteless, and of a white or light yellow colour. The natives bake it in large ovens under ground. After being baked it appears like a different substance altogether, being of a yellowish brown colour, soft, though fibrous, and saturated with a highly saccharine juice. It is sweet and pleasant to the taste, and much of it is eaten in this state, but the greater part is employed in making an intoxicating liquor much used by the natives. A good beer, too, may be prepared from the material of the root (? rootstock), and rum has been distilled from the roots. The leaves furnish an excellent provender for cattle, and form a good sea stock for that purpose. Other parts of the plant have been applied as follows: — "The natives frequently plant the roots thickly around their enclosures, interweave the stems of the plant, and form a valuable permanent hedge. The branch was always an emblem of peace, and, in times of war, borne, together with a young plantain tree, as a flag of truce, by the messengers who passed between the hostile parties. The leaves, woven together by their stalks, formed a short cloak, which the natives wore in their mountainous journeys; they also make the most durable thatch for the sides and roofs of their best houses; are employed in constructing their tents in war, and

their temporary abodes during their inland excursions." *Dra-cæna terminalis* is called *ti* by the inhabitants of Polynesia (the South Sea Islands), where seven varieties of it have been recognised. The specimen figured was furnished by Mr. Lambert. (*Bot. Reg.*, April, mainly: from an account therein quoted from Ellis's work on the Sandwich Islands, which is called an entertaining one: the rest from *Mag. Nat. Hist.* iv. 484.)

CCLI. *Liliæceæ*.

1018a RHINOPE'TALUM *Fis.*

(*Rhin*, *rhinos*, a nose, *petalon*, a petal; the upper sepal has a spur-like process at its base.) 6. 1. Sp. 1.—

Karelini *Fis.* Karéline's ♂ Δ pr $\frac{1}{2}$ ja Pa.Pk.Spot Steppes or deserts of the Indersky Sea, [on the southern part of the Ural 1834? O p.1 Sw.f.gar.2.s.283.

Plant with the habit of *Fritillaria pyrenæica*, and like it of a glaucous hue. From an orbicular bulb is produced an erect undivided slender stem, pubescent, and bearing pubescent, lanceolate, slightly waved leaves, and terminated by a single partly pendulous flower, whose sepals, six, spread starrily to the breadth of a shilling, and are of a pale pink colour, marked with rounded deeper-coloured dots: discovered by M. Karéline in the locality we have cited, "and communicated by him to Dr. Fischer of the Imperial Botanic Garden at St. Petersburg, whence bulbs were transmitted to Mr. Anderson of the Chelsea Botanic Garden. From its locality, it will, no doubt, prove perfectly hardy in our climate; but still, being extremely rare, Mr. Anderson has hitherto kept it in a pit along with other more tender bulbous plants." (*Brit. Flow.-Garden*, April.)

MISCELLANEOUS INTELLIGENCE.

ART. I. *General Notices.*

"ON the General Existence of a newly observed and peculiar Property in Plants, and on its Analogy to the Irritability of Animals. By Henry Johnson, M.D."—This is the title of a communication published in *The London and Edinburgh Philosophical Magazine* for March, 1835, and the communication itself is an abstract of a memoir read before the Ashmolean Society of Oxford. Of the abstract itself we present the following abstract:—

Character of the Phenomena.—On dividing the stem of almost any herbaceous plant, or a branch of some, perhaps most, shrubby ones, and the footstalks of the leaves, and the peduncles of flowers of plants, the divided portions are found to diverge from the line of the stem's or branch's length, in the mode that the branches of the capital letter Y divaricate from their stem, except that it is in lines curved outwardly, not in straight ones. This diverged state continues until the object divided withers and dies from the loss of its moisture.

Plants in which Instances of the Phenomena have been observed, and Particulars on two of the Instances.—The plants in which Dr. Johnson has observed instances of the phenomena are those of above seventy genera, with *Làmium álbum* and *Jasminum frúticans*, and other plants mentioned below, if not included in, additional to, this number. A portion of the stem of the white-corollaed dead nettle (*Làmium álbum L.*) was divided (with a lancet) from the tip of the portion to $1\frac{1}{2}$ inch down it: the segments instantly separated from each other 1 inch; and the distance was gradually increased to $1\frac{1}{4}$ inch.

A twig of *Jasminum fruticans* was divided from its tip down the middle, when the segments instantly separated, and they remained separate when the twig was held in an inverted position; thus showing that the effect did not depend on the segments bending outwards from their own weight.

Nature and Cause of the Phenomena. — They must depend on physical elasticity, or on that vital contractile power which is called irritability. No other known principle suggests itself to which I can reasonably ascribe them.

Facts which oppose the ascribing the Divergence to Elasticity. — The woody parts of trees, and even the rattan cane, which are certainly some of the most elastic vegetable substances, never exhibit divergence on division. [The editor of the *Phil. Mag.* here annotates that a botanical friend has suggested the enquiry, whether Dr. Johnson has ever tried the effect of division on any plant of the natural order *Thymelææ*.] The stems of many plants, the common teasel one, which in their recent and growing state are divergent on division, lose this property when they become dead and dried, although they are more elastic in the latter case than before. — Poisons destroy [Dr. Johnson has found by numerous experiments] the power of divergence, which they would not do if it were dependent on a mere physical cause, such as elasticity.

Facts which led Dr. Johnson to conclude that a vital Property causes the Divergence. — The divergence "is most active in those parts of plants which exhibit other vital properties and functions in the greatest perfection. For instance, while it does not exist in dead wood, and ceases as a plant loses its moisture, it is found in stems, and flower stalks, and leaf stalks when in their most vigorous and healthy state." Poisons are known to destroy vitality. Dr. Johnson placed "a stem of bryony (*Bryonia dioica*) in a solution of arsenite of potash (made by boiling together in 1 oz. of water, 8 grs. of white arsenic and 8 grs. of subcarbonate of potash). In two days it became so flaccid that the head and tendrils hung downwards; they were not discoloured, and but little shriveled. The divergent power was completely destroyed. I confined two stems of the red [corollaed] dead nettle (*Lamium purpureum*) in an inverted jar filled with sulphuretted hydrogen. In two days one of the stems was so perfectly flaccid as to be incapable of holding up its head. They were not withered, and the blossoms only looked a little paler. Every part of the stems which was exposed to the influence of the gas had completely lost its divergent power.

Stimulants which excite or increase the Power of Divergence. — Many poisons whose ultimate effect is to destroy this power, do, at first, increase it. This has occurred with laurel water, dilute nitric acid, brandy, oil of turpentine, hot water, and a mixture of ether with sal volatile. Cold water, also, so augments the divergence of the segments of a divided stem, that they become curled up in circles or spiral coils. Every one has seen an instance of this in celery when dressed for table. More remarkable proofs of the effects of stimulation were supplied in the following cases. Several pieces of the stems of different plants were divided, and, when in a state of divergence, were immersed in hot water; the divergence was at first increased in all, but in a few minutes the diverged portions entirely collapsed, and their divergence was totally destroyed. In a young and vigorous peduncle of dandelion, which curved to the left, several notches were cut in the concave side: the peduncle instantly became erect; and, on cautiously applying a heated poker near the entire side, the fibres in the latter appeared to be contracted, and the peduncle now inclined to that side the opposite to that to which it inclined at first. — *J. D.*

In receiving and exchanging Seeds, a correspondent alleges that a good deal of deception is sometimes practised by gardeners. It is alleged that the gardener who possesses a choice variety of fruit or flower sometimes indulges in "a secret pride to retain the sort to himself;" and if he is asked by a neighbour for a plant or seed, instead of candidly refusing it, he gives something else. This is, no doubt, very reprehensible conduct, and can only proceed from a very short-sighted view of the duties which man owes to society, and

even of the individual's own happiness and reputation. Nothing but downright honesty, and doing as we would be done by, will answer in the long run. That gardener is much to be pitied whose conduct is guided by a different opinion; for, sooner or later, he will fall a victim to it. The correspondent who complains signs himself—*J. W. D. Great Bookham, Surrey, March 19. 1835.*

*Lead*en Wire is beginning to be used in France in tying up fruit trees and other plants to stakes or trellises, as well as for attaching labels to plants, by nurserymen. It is durable, flexible, and is less injurious to the plant than copper wire, hitherto used for the same purposes. The wire may be easily manufactured by any glazier who has a machine for drawing lead lap: he has only to draw the lap through a series of circular holes, gradually diminishing in size, till the last produces the wire of the requisite degree of fineness; or a regular wire-drawer may be applied to.

Lepidium ruderale is a complete antidote to bugs. Hang up a bunch in a chamber, and they will flock to it, and in a short time be killed by its odour. (*Tournefort's Fauna of the Moselle*, as quoted in the *Printing Machine*.)

ART. II. Foreign Notices.

GERMANY.

CAMELLIA francofurtensis.—I have to relate to you great news. I have gained from seed of the *Camellia argentea* the most splendid variety which ever has been seen in this country. You think it, perhaps, not possible; neither have I ever expected such a triumph. It flowered first last year, on a very weak plant; and although so very beautiful that paintings and lithographic plates were taken from it, yet the beauty of the present flower surpasses the most extravagant wishes. It is quite as large as the *C. reticulata*; the form and colours are unrivalled [we understand that it is white with dark spots]; and there is no doubt of its maintaining the first place among camellias for at least twenty years. It is named the *Camellia francofurtensis*, and is the pride of our town—the conqueror's crown of the genus. Had the flowering plant stood at some place about London, I am fully convinced it would have excited great speculations; but the *Camellia francofurtensis* will soon reach England, and will be required for every collection.—*J. Rinz, jun., Nurseryman. Frankfurt on the Main, March 19. 1835.*

NORTH AMERICA.

The Progress of Floriculture in Philadelphia is evinced by the following extract from an American newspaper: we are much gratified to learn this state of things:—"We lately paid a visit to the extensive conservatories of that zealous and successful florist, R. Buist. The plants in the extensive green-house are in excellent condition, and the quantity of flowers is very great for this season of the year. The camellia house is particularly rich, and many of the flowers are of dazzling brilliancy. This collection consists of upwards of *ninety* imported varieties. The genus *Amaryllis* is also very conspicuous: Mr. Buist says he has one hundred and eighty flowering bulbs; several are already in bloom, and are splendid, especially a new variety called *Psittacina venusta*, which excels any we have seen of the kind. The *ericas* are also very attracting. *Rosa Smithii* is now plentiful and of delicious fragrance. A *Rhododendron arboreum* var., about twelve feet high, begins to show its immense trusses of crimson flowers, and will be a magnificent sight in a few days. A new *Tropæolum*, introduced by Mrs. Alsop, is also very pretty, and, with Mr. Poinsett's great scarlet *Euphorbia*, has bloomed since November in the hot-house. (*National Gazette and Literary Advertiser*, February 13. 1835.)

ART. III. Domestic Notices.

ENGLAND.

THE Metropolitan Society of Florists and Amateurs held their spring show for auriculas, heartseases, flowering plants, and cut flowers, at the Crown and Anchor Tavern, April 16. The display appeared to us to be one of the most brilliant that has been made by the Society at this season of the year. The auriculas were not numerous, but there were some good flowers, and a seedling of great merit by Mr. Groom. The heartseases were extremely beautiful, and amongst them were not only several of the old varieties, admirably grown, and of brilliant colours, but also several fine specimens of the new lilac heartsease, now so much and so deservedly admired. Among the flowering herbaceous plants, the most beautiful and the best grown was decidedly *Tropæolum tricolorum*. This plant was skillfully trained round a cone of rods, so as to present a tapering mass of flowers. It was grown by the Messrs. Rollisson, of Tooting. The same gentlemen also exhibited a fine *Blëtia Tankervilleæ*, a *Clivea nobilis*, some remarkably handsome heaths, and various other fine plants. A noble specimen of *Ribes speciosum*, most gracefully trained, was exhibited by Mr. Platt, gardener to — Harrison, Esq., of Cheshunt. Some rhododendrons and azaleas, from Mr. Smith, late of Coombe Wood, were splendid specimens, and were very much admired. Of the cut flowers, those of Mrs. Marryat were preeminent. Among these were some fine specimens of *Passiflora quadrangulâris* and *racemosa*, and of *Tacsônia*; of *Acácia longissima*, a beautiful plant; *A. Sophora*, remarkably delicate in its leaves; *A. pubescens*, and *A. dealbata* and *armata*. There were also some fine French wallflowers, and many other articles, which want of space, and the near approach of publishing day, prevents us from noticing.

The Exhibitions of the London Horticultural Society will be held at the garden on May 9., June 6., and July 4. Great preparations are making at the garden for the first exhibition; and we have no doubt that all three will be most splendid. As tickets may be obtained, through Fellows, at 5s. each, every gardener or amateur in the neighbourhood of London may attend if he chooses.

The Newick Horticultural Society, in their list of prizes for 1835, not only offer a great number, varying from 1s. to 5s., to cottagers, but they will give to fifty cottagers bringing productions of merit, but not obtaining any prize, 1s. each; and to every cottager bringing productions of merit, whether he may obtain a prize or not, a ticket of admission to the show.

The Suitableness of Cornwall for growing Exotics in the open Air will be obvious from the following table of the temperature at Trellissick for 1834, kindly sent to us by Mr. John Perkins, gardener there:—

	Lowest.	Highest.	Mean.		Lowest.	Highest.	Mean.
January	- 36°	54°	46°	July	- 55°	72°	64°
February	- 31	53	44	August	- 55	71	62
March	- 38	53	44	September	- 54	65	60
April	- 39	57	48	October	- 38	63	53
May	- 53	69	60	November	- 33	58	43
June	- 56	69	62	December	- 30	56	43

With such a climate many of the Australian trees and shrubs might be grown, we should suppose, as well or better than they are in their native country; with the exception, perhaps, of ripening their seeds, which may require a more intensely hot summer than ours. Mr. Perkins informs us that an immense number of green-house plants have been inured to the open air by Mr. Booth, gardener to Sir Charles Lemon. He mentions several species of acacia; and adds, that mesembryantheums, fuchsias, and such like green-house plants, stand the winter in Cornwall without the slightest protection.

Old Trees in Ditton Park, near Windsor.—In the Return Paper from this place, kindly filled up for us by Lord Montague, we observe a lime tree 80 ft. high, with a trunk 22 ft. 10 in. in circumference, at 1 ft. from the ground, of unknown age, and still in a vigorous state. It formed part of an avenue, and

was considered a very old tree upwards of a century ago. As Ditton was a residence of Cardinal Wolsey, the avenue was, in all probability, planted by him. The common white, and the hoary poplars, at ninety years of age, are nearly as many feet high, with trunks from 17 ft. to 20 ft. in circumference. There is a *Cupressus sempervirens* in a state of decay, which tradition says was planted by Cardinal Wolsey. There are three trees of *Taxodium distichum*, ninety years of age, and from 75 ft. to 80 ft. high. The roots run into the water of the artificial river in the grounds, and throw up large knobs above the turf on its margin, like those near the water at Syon. These deciduous cypresses at Ditton are generally considered to be the largest in England.

The Eriobótrya japonica has succeeded perfectly with me, grafted on the common crab. I tried it on the white thorn and on the quince; but I was unsuccessful. — R. H. Fleming. *Coed Ithil, Monmouthshire, March 5. 1835.*

In general the *Eriobótrya* succeeds well on the common thorn. We have a plant at Bayswater ten years grafted, and now nearly 15 ft. high. — *Cond.*

The Forest Trees of New Zealand (at least, in all probability most of those which grow on those hills or mountains which in that immense island are covered with snow during winter) will stand the open air in England. Mr. Lambert has lately acquired a great many dried specimens of these trees; and the Earl of Mountnorris has recently sent out a gardener, with the view of collecting seeds of them, and of other articles in New Zealand which are likely to endure the open air in England. There is a rich arboretum at Arley Hall, the earl's seat in Worcestershire, and every year is adding to the extent of the collections of that naturally magnificent place.

Some fine Specimens of double Varieties of Camellias, grown in the open air, at Bicton, near Exeter, the seat of Lord Rolle, have been sent us by Mr. Glendinning, the gardener there. Mr. Glendinning has already noticed these shrubs in p. 52. as being perfectly hardy. The flowers and leaves were certainly much larger, and the latter of a more coriaceous texture, than those grown in houses about London. We have also seen some very fine specimens of camellias from the open garden, brought from Messrs. Chandler's nursery at Vauxhall, and from Mr. Donald's, at Woking. Mr. Glendinning sent us, by the same conveyance, flowers of *Acácia Deloynidia*, a name which he had with the seeds from the Botanic Garden at Sydney, and which is also attached to the same plant in the Botanic Garden at Edinburgh. Mr. David Don thinks it nothing more than *A. dealbata*. It grows at Bicton, against a wall, summer and winter, and last year made a shoot more than 9 ft. in length, which would have been longer had it not been accidentally broken off when it reached the top of the wall. We also received a fine specimen of *Leptospermum emarginatum* Wnl, grown in the open air. — *Cond.*

Bugmánsia sanguínea. — Of the three plants of this beautiful tree or shrub which flowered at Hayes Place, the residence of Miss Traill, in Kent, two only had their blossoms red and yellow; the third had flowers of a fine yellow colour, which, though not so showy, were, perhaps, more elegant. The seeds were sown in 1832, and the plants, tried both in the conservatory and stove, grew fast, but did not show for flower: one was, in the summer of 1833, plunged in the open border in a pot, and left there by way of experiment. In the winter it died down to the ground; but in the spring sent up four vigorous shoots 4 ft. high, which in September produced many flowers. This was the *B. sanguínea*. The first frost of this winter so much affected it (although the gardener took every precaution), that, for fear of losing it, he removed it into the house. When he took it up, he found that it had forced a long taproot, above 1 ft. 6 in. in length, through the pot. Two other plants were planted, without pots, last summer, in the flower borders; and when they showed for flower, were removed into the border of the conservatory, where they flowered well late in the autumn. The plant appears to require more room for its roots than a pot affords; for those only grow luxuriantly and blow which are in the ground. Miss Traill's gardener says he does not think it will stand the winter without protection, as it is nipped by the

first frost. He has not yet succeeded with the cuttings he has tried : indeed, it is difficult to obtain them from the plants. The plants in the conservatory which bloomed last autumn are now coming into fine flower ; and it is hoped that, the time of year being more favourable, seeds may be obtained from them. The last year the seed-pod formed well, but dropped off before it swelled to any size. — *M. T. March 7. 1835.*

The Collection of Pelargoniums in the garden of our correspondent, Mr. Maddison, at Wondelghem, near Ghent, amounts to about 300 sorts, many of which, it is considered, have never been seen in England. The dahlias in the same garden are also very numerous. Mr. Maddison has printed lists of his collection, and he is now making extensive exchanges with Mr. Dennis, of the King's Road, and other British nurserymen and florists, and more especially with amateurs.

Cytisus bracteolatus is now finely in bloom with us. It is a most desirable conservatory plant, and is loaded with racemes of golden yellow flowers, which are powerfully fragrant. — *George Penny. Milford Nursery, near Godalming, March 17. 1835.*

A Mode of protecting Wall Fruit Trees is now exhibited in the Horticultural Society's Garden at Chiswick, which deserves the attention of every kitchen-gardener : it is simply that of stretching straw ropes in front of the trees, the lowest about 4 ft. from the ground, and about 2 ft. from the wall ; and the highest a few inches under the coping, and from 6 in. to 1 ft. from the wall. The intermediate ropes are about 2 ft. apart. The ropes are kept at regular distances from each other and from the wall, by being tied to cords ; one end of each of which is fastened to the nail or hook driven in under the coping, and the other to a stake driven into the ground about 4 ft. feet from the wall. In this way the lines serve as rafters, and the angles formed by the lines with the perpendicular of the wall being about 15 deg., the rough straw ropes, though 2 ft. apart in the direction of the slope, are not above 6 in. apart measured horizontally. It is in consequence of this closeness horizontally that they protect the trees, by preventing the perpendicular radiation of the heat from the surface of the ground ; and it is in consequence of their distance vertically that they do not injure the blossoms by shading them from the sun. It is clear, from the trial in the Horticultural Society's Garden, that these ropes are just as effective in protecting the trees as netting or bunting ; and, as the cost is so very much less, especially in the country, where coarse wheat straw or litter is abundant, no gardener who is allowed hands sufficient to do the work of his garden need ever have his wall trees injured by frost.

The Sweeny Nonpareil. — Some remarkable fine specimens of this excellent apple were sent us by Thos. N. Parker, Esq., of Sweeny Hall, near Oswestry. In the first week of April we tried these apples, both raw and cooked, and found them of excellent flavour.

The Maesbury Red Potato. — Specimens of this potato were also sent us by Mr. Parker. It is red-skinned, round, the eyes not very hollow, keeps well, and is very mealy ; but, compared with the red Scotch potatoes sent to London from Fifeshire and Perthshire, and the potatoes grown at Prescot, in Lancashire, the Maesbury may be said to be nearly without flavour. We do pretend to a little knowledge and taste in the matter of potatoes ; and decidedly the best that we have ever tasted have been those grown at Prescot. We have tried the same sort about London, but found them to degenerate the very first year. There seems to be something in the soil and climate of Prescot and its vicinity peculiarly favourable to the potato.

Turnpike Gates and Wickets, it is well known, have occupied Mr. Parker's attention for nearly half a century, and he has effected more improvements in them than, perhaps, any other individual. Mr. Parker has lately sent us an engraving showing his last improvement, by which, in addition to a wicket gate, there is a gate for passing pigs and counting them as they pass. As the subject belongs more to engineering than to gardening, we shall, probably, give further details respecting this gate in the *Architectural Magazine*.

The Vittoria Wheat has succeeded remarkably well in Warwickshire. It produced a fine crop in July last year, though sown a month too late. It yielded a particularly sweet and well-tasted flour, from which excellent bread was made. To have the crop ripen in June, it ought to be sown in February: if sown in June, it will, in fine seasons, yield a crop in October. (*Bury and Norwich Post*, February 11. 1835.)

Above a dozen large *Mushrooms* were sent us by a correspondent, John Mowlem, Esq., on the 23d of March, which had been gathered the day before in an open field near Edgeware. Being cooked, we found them as good as mushrooms grown in artificial heat, of which there are immense quantities in this neighbourhood (Bayswater). — *Cond.*

SCOTLAND.

Drummond's Agricultural Museum at Stirling may now be considered as open to the public throughout the year. Messrs. Drummond liberally admit all youths and servants, particularly those connected with farms and gardens, and mechanics, free of expense; other persons pay 1*l.* for a yearly ticket, not transferable, 10*s.* for a single person, or 2*s.* 6*d.* for a family ticket. *The Report of the Museum*, from March, 1833, till November, 1834, lately published, will be noticed in a succeeding Number.

IRELAND.

A Yew Tree with yellow Berries.—Among a group of lofty old yews at the seat of Bishop Lindsey, there is one tree which has the berries yellow. This fact is taken from the column of general remarks in the *Return Paper* from Terenure, near Dublin, the seat of F. Bourne, Esq., made by his very intellectual gardener, Mr. William Chalmers. We mention this to show the value of such remarks. Here is a source from which a new and very distinct variety of yew may be obtained by nurserymen, and propagated by grafting or layers. We have no doubt of there being many such sources of new varieties throughout the country. The way to find them out is for gardeners to be continually keeping their eye on the foliation of trees in spring, and on the dropping of their leaves in autumn, because, at these two seasons, any variation from the central or average form is in general more conspicuous. The *Return Paper* from Terenure is filled up with extraordinary care, and is full of interesting information as to the habits of species. The collection of trees at that seat appears to us to be the most complete which has been made in Ireland in the nineteenth century; as that at Oriel Temple appears the most complete that was made during the eighteenth.

ART. IV. *Retrospective Criticism.*

SOLANUM betaceum. (p. 105.)—Depend upon it that the *Solanum* of which I showed you the fruit is not *S. betaceum*. I shall get you a specimen of it when it next comes into flower. Mr. Miller examined the figure of Mr. Lambert's plant in the *Botanical Repository*, and says the figure does not at all suit his plant. Besides, Mr. Lambert's flowers are pink; while those of Mr. Miller are white, without any purple in the foliage, either in the new or old leaves. It is certainly a most interesting plant. — *Robert Byers. Swansea, February 14. 1835.*

The Purple Potato which I spoke to you about is quite different from that cultivated by the French, and which is for sale by Mr. Charlwood. My purple potato differs from the other in boiling of as deep a purple as it is in a raw state. It is also early, a great bearer, and remarkably mealy. It is cultivated in some parts of Cornwall, and is a most valuable vegetable, not only for all the common purposes of potatoes, but as a garnish, as an ingredient in *salmagundi*, and for mixing in salads along with, or instead of, red beet. — *Id.*

ART. V. Covent Garden Market.

<i>The Cabbage Tribe.</i>				<i>From</i>				<i>To</i>				<i>From</i>				<i>To</i>			
				<i>£ s. d.</i>				<i>£ s. d.</i>				<i>£ s. d.</i>				<i>£ s. d.</i>			
Cabbages, per dozen :																			
White	-	-	-	0	0	6	0	1	0	Sea-kale, per punnet	-	-	0	1	0	0	1	6	
Red	-	-	-	0	8	0	0	10	0	Lettuce, per score :			0	1	3	0	1	6	
Plants or Coleworts	-	-	-	0	1	6	0	2	0	Cos	-	-	0	0	3	0	0	6	
Cauliflowers, per dozen	-	-	-	0	6	0	0	9	0	Cabbage	-	-	0	0	3	0	0	6	
Broccoli, per bunch :										Endive, per score	-	-	0	1	6	0	2	0	
White	-	-	-	0	0	8	0	1	6	Celery, new, p. bund. (12 to 15)	-	-	0	0	6	0	1	6	
Green	-	-	-	0	0	6	0	1	0	Small Salads, per punnet	-	-	0	0	2	0	0	3	
										Watercress, per dozen small bunches	-	-	0	0	4	0	0	6	
<i>Legumes.</i>																			
Peas, forced, per punnet	-	-	-	2	0	0	0	0	0	<i>Pot and Sweet Herbs.</i>									
Kidneybeans, forced, per hund.	-	-	-	0	1	6	0	2	6	Parsley, per half sieve	-	-	1	6	0	2	6	0	
<i>Tubers and Roots.</i>																			
Potatoes	-	-	-	1	10	0	4	0	0	Tarragon, green, per doz. bun.	-	-	0	4	0	0	0	0	
per ton	-	-	-	0	1	6	0	4	0	Fennel, per dozen bunches	-	-	0	2	0	0	0	0	
per cwt.	-	-	-	0	1	0	0	2	0	Thyme, per dozen bunches	-	-	0	2	0	0	0	0	
per bushel	-	-	-	0	2	0	0	0	0	Sage, per dozen bunches	-	-	0	2	0	0	0	0	
Kidney	-	-	-	0	1	6	0	0	0	Mint, per dozen bunches	-	-	0	2	0	0	0	0	
Scotch	-	-	-	0	1	6	0	0	0	Peppermint, dry, per doz. bun.	-	-	0	1	0	0	0	0	
New, per pound	-	-	-	0	1	6	0	2	6	Marjoram, dry, per dozen bun.	-	-	0	1	0	0	0	0	
Jerusalem Artichokes, per half sieve	-	-	-	0	1	3	0	0	0	Savory, dry, per dozen bunches	-	-	0	1	0	0	0	0	
Turnips, White, per bunch	-	-	-	0	0	2	0	0	0	Basil, dry, per dozen bunches	-	-	0	1	3	0	0	0	
Carrots, per bunch :										Rosemary, green, per doz. bun.	-	-	0	3	0	0	0	0	
Old	-	-	-	0	0	4	0	0	5	Lavender, dry, per dozen bun.	-	-	0	3	0	0	0	0	
Horn	-	-	-	0	0	8	0	0	0	<i>Edible Fungi and Fuci.</i>									
Parsneps, per dozen	-	-	-	0	0	9	0	1	0	Mushrooms, per pottle	-	-	0	0	8	0	1	0	
Red Beet, per dozen	-	-	-	0	1	0	0	0	0	Morels, per pound	-	-	0	18	0	0	0	0	
Scorzenera, per bundle	-	-	-	0	2	6	0	0	0	Truffles, per pound :									
Horseradish, per bundle	-	-	-	0	1	0	0	4	0	English	-	-	0	0	0	0	6	0	
Radishes :										Foreign, dry	-	-	0	14	0	0	0	0	
Red	-	-	-	0	0	6	0	0	8	<i>Fruits.</i>									
per dozen hands (24 to 30 each)	-	-	-	0	0	1	0	0	0	Apples, Dessert, per bushel :									
White Turnip, per bunch	-	-	-	0	0	1½	0	0	2	Reinette Grise	-	-	0	12	0	0	18	0	
<i>The Spinach Tribe.</i>																			
Spinach	-	-	-	0	1	6	0	2	6	Nonpareils	-	-	0	15	0	2	0	0	
per half sieve	-	-	-	0	1	0	0	1	6	Baking, per bushel	-	-	0	4	0	0	7	0	
Sorrel, per half sieve	-	-	-	0	1	0	0	0	0	Gooseberry Pippins	-	-	0	12	0	0	14	0	
<i>The Onion Tribe.</i>																			
Onions, Old, per bushel	-	-	-	0	2	0	0	2	6	Apricots, green, per pottle	-	-	0	2	0	0	2	6	
For pickling, per half sieve	-	-	-	0	2	6	0	5	0	Almonds, per peck	-	-	0	7	0	0	0	0	
Leeks, per dozen bunches	-	-	-	0	0	4	0	0	8	Cherries, per pound	-	-	1	10	0	0	0	0	
Chives, per dozen roots	-	-	-	0	1	0	0	1	6	Gooseberries, per pottle	-	-	0	2	6	0	0	0	
Garlic, per pound	-	-	-	0	0	8	0	1	0	Cranberries, per gallon	-	-	0	4	0	0	5	0	
Shallots, per pound	-	-	-	0	0	10	0	1	0	Strawberries, forced, per oz.	-	-	0	0	6	0	1	3	
<i>Asparaginous Plants, Salads, &c.</i>																			
Asparagus, per hundred :										Filberts, English, per lb.	-	-	0	1	6	0	0	0	
Large	-	-	-	0	10	0	0	12	0	Pine-apples, per pound	-	-	0	8	0	0	14	0	
Middling	-	-	-	0	6	0	0	8	0	Grapes, hot-house, per pound	-	-	1	0	0	1	4	0	
Small	-	-	-	0	1	6	0	3	0	Cucumbers, per brace	-	-	0	1	6	0	3	0	
Large natural	-	-	-	0	12	0	1	0	0	Oranges	-	-	0	0	9	0	2	6	
<i>Asparaginous Plants, Salads, &c.</i>																			
Asparagus, per hundred :										per hundred	-	-	0	5	0	0	18	0	
Large	-	-	-	0	10	0	0	12	0	Bitter Oranges, per hundred	-	-	0	10	0	1	10	0	
Middling	-	-	-	0	6	0	0	8	0	Lemons	-	-	0	0	9	0	2	0	
Small	-	-	-	0	1	6	0	3	0	per dozen	-	-	0	5	0	0	12	0	
Large natural	-	-	-	0	12	0	1	0	0	per hundred	-	-	0	5	0	0	12	0	
<i>Asparaginous Plants, Salads, &c.</i>																			
Asparagus, per hundred :										Sweet Almonds, per pound	-	-	0	2	3	0	0	0	
Large	-	-	-	0	10	0	0	12	0	Brazil Nuts, per bushel	-	-	0	14	0	0	16	0	
Middling	-	-	-	0	6	0	0	8	0	Spanish Nuts, per peck	-	-	0	5	0	0	0	0	
Small	-	-	-	0	1	6	0	3	0	Barcelona Nuts, per peck	-	-	0	6	0	0	0	0	
Large natural	-	-	-	0	12	0	1	0	0										

Observations. — The season continued favourable until the 14th; when a cold easterly wind set in with frosts at night, which have, I fear, done considerable damage to the fruits now in bloom, which will be the cause of much distress to the horticultural interest. The supply to the market continues good, with a tolerable demand at fair reasonable notices. From the prevalent coldness of the last few days, forced asparagus has been in demand at an improved price, the natural being somewhat retarded, which has also continued the supply of sea-kale moderately. Rhubarb for tarts has been in moderate supply; but, owing to the market being well furnished with apples at this late season, the price has been moderate. Cabbages of good qualities have been in demand; but, in consequence of the large supply of colewort, greens have been very reasonable. Of broccoli we have yet a great abundance; prices, for this season, very low. A few forced peas (two or three parcels) have been seen (prices nominal, as per last). New potatoes are more reasonable in price. French beans plentiful (very cheap). Cucumbers, of most excellent quality, plentiful; and, considering the charge of their culture, moderate in price. Onions, owing to the mildness of the winter, have been consumed very moderately; in consequence we have now a good supply, and, contrary to expectation, very low in price. Turnips are nearly out of season: a few bunches of the early

Dutch variety (spring-sown) were in the market on Saturday last. Of potatoes the supply is most abundant (of excellent quality). The demand throughout the season has been so small, the price of bread being low, that a large stock is remaining on hand, a great part of which will be entirely lost. The prices throughout the winter have been extremely low: in some cases whole cargoes (partially damaged) have been actually sold for less than their freight and expenses, so that the growers must have sustained most serious loss. — *G. C. April 25. 1835.*

ART. VI. *Biography.*

THE following information respecting the deeply lamented botanist, Douglas, will, we are sure, be read with great interest. It is from the *West Briton and Cornwall Advertiser* newspaper, and evidently from the pen of Mr. William Beattie Booth, A. L. S., now residing in that part of the country, Mr. Douglas's townsman and intimate friend. We still hope that farther particulars will be published, including "the interesting Journal of his Travels," alluded to in the article below, with whatever information may arrive with his effects, now on their way to this country:—

Mr. Douglas, the Botanist.—The intelligence of the death of this enterprising traveller and botanist will be read with feelings of the deepest regret, by every one acquainted with the eminent services he has rendered to botany, and other branches of natural history, in the course of the last twelve years. His name, in fact, is associated with all the rare and beautiful plants lately introduced from North-west America, which, by means of the Horticultural Society of London, have been extensively distributed not only in Britain, but over Europe. To him we are indebted for the elegant clarkia, the different species of pentstemons, lupines, œnotheras, ribeses, and a host of other ornamental plants which now adorn our gardens, and which have formed the great attraction of the several botanical publications wherein they have been figured and described.

Mr. Douglas was born at Scone, near Perth, and served his apprenticeship as a gardener in the gardens of the Earl of Mansfield. About the year 1817 he removed to Valleyfield, the seat of Sir Robert Preston, Bart., then celebrated for a choice collection of exotics, and shortly afterwards went to the Botanic Garden of Glasgow. Here his fondness for plants attracted the notice of Dr. Hooker, the professor of botany, whom he accompanied in his excursions through the Western Highlands, and assisted in collecting materials for the *Flora Scotica* with which Dr. Hooker was then engaged. This gentleman recommended him to the late secretary of the Horticultural Society, Joseph Sabine, Esq., as a botanical collector; and in 1823 he was despatched to the United States, where he procured many fine plants, and greatly increased the Society's collection of fruit trees. He returned in the autumn of the same year; and in 1824 an opportunity having offered, through the Hudson's Bay Company, of sending him to explore the botanical riches of the country adjoining the Columbia river, and southwards towards California, he sailed in July for the purpose of prosecuting this mission. In one of his letters, now before us, he thus speaks on leaving England:—"I had a fine passage down the channel, and cleared the Land's End on the 1st of August. The day was warm, with a clear sky; the evening cool and pleasant. I stood on deck looking on the rocky shores of Cornwall, burnished with the splendour of a setting sun—a noble scene. By degrees the goddess of night threw her veil over it, and my delightful view of happy England closed—probably closed for ever!"

While the vessel touched at Rio de Janeiro, he collected many rare orchideous plants and bulbs. Among the latter was a new species of *Gesneria*, which Mr. Sabine named, in honour of its discoverer, *G. Douglasii*. He was enraptured with the rich vegetation of a tropical country. He stopped at Rio longer than he anticipated, and left it with regret. In the course of his voyage round Cape Horn he shot many curious birds peculiar to the southern hemi-

sphere, and prepared them for sending home. On Christmas-day he reached the celebrated island of Juan Fernandez, which he describes as "an enchanting spot, very fertile, and delightfully wooded. I sowed a large collection of garden seeds, and expressed a wish they might prosper, and add to the comfort of a second edition of Robinson Crusoe, should one appear." He arrived at Fort Vancouver, on the Columbia, on the 7th of April, 1825. Here an extensive field presented itself to him; and the excellent manner in which he performed his duty to the Horticultural Society cannot be better exemplified than by referring to the vast collections of seeds which from time to time he transmitted home, along with dried specimens, beautifully preserved, and now forming part of the herbarium in the garden of the Society at Chiswick. Of the genus *Pinus* he discovered several species, some of which attain to an enormous size. The *Pinus Lambertiana*, which he named in compliment to Aylmer Bourke Lambert, Esq., Vice-President of the Linnæan Society, is, perhaps, the largest of the whole. One of these, which had been blown down, measured 215 ft. in length, and 57 ft. 9 in. in circumference, at 3 ft. from the ground. The cones of it, which Mr. Douglas sent home, and which we have seen, were 16 in. long, and 11 in. in circumference. The kernel of the seed is sweet and pleasant to the taste, and is eaten by the Indians, either roasted or pounded into coarse cakes for winter store. The resin which exudes from the trees when they are partly burned, loses its usual flavour, and acquires a sweet taste; in which state it is used by the natives as sugar. Another species, named by Mr. Sabine, *Pinus Douglasii*, attains nearly the size of the above.

In the spring of 1827 Mr. Douglas traversed the country from Fort Vancouver, across the Rocky Mountains to Hudson's Bay, where he met Captain (now Sir) John Franklin, Dr. Richardson, and Captain Back, returning from their second overland arctic expedition. With these gentlemen he came to England in the autumn, bringing with him a variety of seeds, as well as specimens of plants and other objects of natural history. Through the kindness of his friend and patron Mr. Sabine, he was introduced to the notice of many of the leading literary and scientific characters in London; and shortly afterwards he was honoured by being elected, free of expense, a Fellow of the Linnæan, Geological, and Zoological Societies; to each of which he contributed several papers, since published in their *Transactions*, evincing much research and acuteness as a naturalist. A handsome offer was made to him by Mr. Murray of Albemarle Street, for an account of his travels, which he commenced preparing for the press, but which, we grieve to say, he never completed. Some entertaining extracts from his letters to Dr. Hooker were published in *Brewster's Edinburgh Journal* for January, 1827; and a genus of plants belonging to the natural order Primulacæ was dedicated to him by Professor Lindley, and defined in *Brande's Journal* for January, 1828; but it will scarcely be credited in this enlightened age, when there are so many channels open for communicating information, that the interesting journal of his travels, which we have seen and read, has been allowed to slumber unregarded in the archives of the Horticultural Society in Regent Street.

After being in London for two years, Mr. Douglas again sailed for Columbia in the autumn of 1829; where he has since been enjoying his favourite pursuit, and adding largely to his former discoveries. We were in expectation of his return by the very ship which has brought us the tidings of his horrible death; an event the more to be regretted from having been occasioned by circumstances which we shudder to contemplate—that of falling into a pit made by the natives of the Sandwich Islands for catching wild bulls, one of the latter being in it at the time.

Such, we understand, has been the unfortunate destiny of our intrepid friend and countryman, at the early age of thirty-six. Having known him intimately from a boy, we feel a mournful pleasure in looking back to the many agreeable hours we have spent in his society, and deeply deplore his untimely fate.

—W. B. B.

THE
GARDENER'S MAGAZINE,
JUNE, 1835.

ORIGINAL COMMUNICATIONS.

ART. I. *Observations on the Gardening of Belgium, with incidental Remarks on its Rural and Domestic Economy; extracted from Notes made during a Six Years' Residence in the Country.* By JOHN MADDISON, Esq., of Wondelghem, near Ghent.

(Continued from p. 225.)

AMATEUR Gardeners. — Among the many amateurs with whom Ghent abounds, M. Mechelynk must certainly be reckoned the first, particularly with regard to stove plants; which he certainly cultivates as well as I have ever seen them in any gentleman's or gardener's collection in England. His hot-house, like all the others in Belgium, is heavy, and has large panes of glass; but his tan bed, which is edged all round with a broad kerb of granite, is the very pattern of neatness; and the whole culture of his hot-house plants does his gardener much credit. The plants themselves are accounted a first-rate collection; and they certainly form one of which any nobleman in England might be proud. M. Mechelynk's green-house plants are very fine; but neither the houses nor the plants themselves are in such fine order as those already mentioned: it is very evident, indeed, that the gardener does not pay the green-house plants the same attention as he does the stove plants; or, perhaps, it would require an extra-gardener, and more suitable green-houses, to keep them in an equal state of perfection.

M. Verplancke has, perhaps, the finest green-houses in Ghent, they being built of iron, and very neatly kept; but his collection of plants is very inferior to the house in which it is placed.

M. Huytens-Kerremans has a neat little green-house, too high for the plants he cultivates; but which, nevertheless, does great credit to his groom, who amuses himself, in his leisure hours, in the culture of plants: and, if many other men-servants had the

same taste, it would not only promote a general love for horticulture, but be the means of keeping them, in a great measure, out of the alehouses.

M. Boddaert (of Tronchiennes, a village near Ghent) is another instance of a real taste for flowers. This gentleman is a respectable farmer, who finds leisure from his daily occupation to look after two neat green-houses: one containing camellias, and the other geraniums. M. Boddaert has had no education in gardening, and owes all he knows on the subject to a natural taste for it, and to what he has picked up from the gardeners in the environs, aided by an attentive perusal of the *Bon Jardinier*. For the successful multiplication of the camellia, I believe M. Boddaert to be unequalled.

The gardener of M. van der Woestyne d'Hane is very successful in the cultivation and forcing of early vegetables; and he also cultivates exceedingly well a fine collection of orange trees, which certainly do him great credit.

Besides the above-named gentlemen, there are numbers of others who have a taste, more or less, for flowers, and who take great pleasure in exchanging their plants with those of their neighbours: by which practice, a gentleman who has a fair collection of plants is put to little expense in the purchase of new ones; as, having good plants of his own, he can always procure others by exchange.

I must not here omit mentioning the superb collection of M. Reynders of Brussels, who excels as much in green-house plants as M. Mechelynck does in stove plants; and who, as far as I can judge by observation, possesses the best gardener in this country. His specimens of large camellias are truly magnificent; as are some of his specimens of New Holland plants.

Sir Henry Oakes of Tournay is also a first-rate amateur; and, and at the last exhibition there, gained two gold medals for his plants: in fact, the exhibitions at Tournay would be nothing without him.

Ghent Horticultural Society. — I imagine the Ghent Horticultural Society to be the parent of all the other societies in Belgium, as it has now existed upwards of twenty-six years. I know of no town where the florimania is so strong as in this: persons of all trades and professions must have something to do with flowers; and, though the price of plants is moderate when compared with that in England, yet the dealers in flowers and plants in Ghent are innumerable: and how it can answer to a Belgic gardener to cultivate plants for sale, is more than I can imagine.

There are two exhibitions annually (winter and summer), which are always very fine; but the prizes are not only very shabby, and but few in number, but, for the most part, can only

be gained by such as have large fortunes. By the present regulations, the small gardeners are almost excluded from gaining a prize: in fact, those only who can afford to get plants over from England are sure of getting one. However, the Horticultural Society is about to erect a new building for the exhibition; and I am in hopes, from the increased number of members, that the Society will not only be more liberal in the distribution of prizes, but that it will arrange the exhibition in such a manner as to enable persons of small incomes to have a chance of obtaining prizes, as well as those whose fortunes are large. The judging of the prizes ought, also, to be arranged in a different manner, &c. See my letter, addressed to the secretary of the Ghent Horticultural Society, in the *Horticulteur Belge*.

The three first-rate commercial gardeners in Ghent are Messieurs Verleeuwen, Van Geert, and Verschaffelt: the first of whom (Verleeuwen) is celebrated for his choice collection of plants, obtained chiefly from England; for his obliging manners; and for a liberality in his dealings which ought to recommend him to all amateurs. Every one here, as I before said, is a gardener or amateur; so that it would be impossible to enumerate all the Ghent gardeners by name: but those English gardeners who are desirous of purchasing plants here ought themselves to come over. Messrs. Knight, Garvie, and Tate have already paid this country a visit. The latter sold a quantity of his *Azalea Daniélsii*; which, when once it begins to grow, will thrive surprisingly in the fine kind of vegetable mould we have in this country: though, I think, it will be too delicate to stand our winters in the open air. The summers in Belgium are, for the most part, fine and dry; and the autumns beautifully serene, till November. The winters are, however, sharp, dry, clear, and cutting; but healthy for those not subject to pulmonary complaints. The springs are disagreeable, having cold winds with hot sun. In the winter but very little snow falls. This winter (1834) snow fell twice; but never remained more than three hours at a time on the ground. On the other hand, on Dec. 29. 1829, at ten o'clock at night, Fahrenheit's thermometer, in a northern aspect, fell to 24° below the freezing point.

Ague is the complaint which the peasants suffer most from in the autumn months; and it is here of a particularly acute kind: towards the sea coast there is another kind, still more severe. Smoking and chewing tobacco are recommended as preventives.

The Horticulteur Belge (a work commenced by M. van Houtte, who is now engaged as a collector of rare plants in South America for M. Parthon de Von) deserves a better fate than what it is likely to experience. Had the present proprietors been possessed with the same enthusiasm for horticulture as M. van Houtte was, there could be no doubt that it would have succeeded admirably. As

it is, the work is very reasonable in its price; and contains a great deal of information; chiefly, however, selected from the *Gardener's Magazine* and other English books. Many of the articles are by far too scientific for the practical gardener: but its greatest fault, and that which must ultimately prove its ruin, is, its want of punctuality; as, for instance, a number bearing date Jan. 1835 will, perhaps, not appear until April, 1835; so that the articles relating to the culture for the month of January are completely lost to the amateur and gardener, by being published three months too late.

The Peasantry of Belgium strongly resemble, in their habits and bigotry, the Irish. Their food is generally buttermilk and potatoes; and, though their cottages are better built, being made generally of good substantial brick and mortar, and kept clean by a coat of whitewash, the dunghill, pigsty, and cow-stable almost always adorn the entrance to the house. Few peasants are without a pig and cow: the latter is indispensable to those who have land; because, the soil being sandy to excess, cow-dung is a manure which suits it the best. They are much under the influence of their priests, and lose many a good day's work by the observance of the many holydays of the Catholic church; besides which, abstaining from animal food so often unfits them for labour; and, though strongly made, yet their feeding upon so much vegetable food renders them unable to support the fatigue an English peasant will endure. In comparison with the English and Dutch, their habits of decency and cleanliness are far behind; though, I think, they surpass the French. There are but few schools in the villages: and, where there are any, they are under the direction of the priests; who think they have done their duty by instructing their parishioners in the duties of their religion, without attempting to teach them any of the real advantages of education, such, even, as writing, reading, and arithmetic: in fact, but few peasants in Belgium can read, and scarcely any can write.

The Cultivation of the Ground is certainly good, and very simple; and, though the implements of the agricultural labourers are of the roughest and commonest description, and though they have to toil against a very sandy soil, yet, in fair years, they manage to produce good crops; which, from the nature of the climate, are almost always well ripened. Liquid manure may be here named, and very justly so, their *sumnum bonum*; as, if applied when the corn is sprouty, or immediately before rain, it has an effect which no other manure can have. It destroys insects, and throws a surprising degree of vigour into the crops. It is certainly very offensive to the senses, and ought to be applied during the night: why it is not more generally used in England, I cannot imagine; for nothing is more simple than the way of

applying it. It is pumped into a barrel-shaped water-cart; and, when brought upon the land, the plug is taken out, and the liquid, flowing over a board something in the shape of a fan, as the cart proceeds, is dispersed on both sides, over a space, perhaps, of 4 ft. or 5 ft., the breadth of a fallow. The cart has generally three wheels. The Flemish peasant is certainly a hard-working man, but is by no means quick or active: he is naturally more industrious than the Frenchman; and, though wanting in that restless activity which characterises the French, is yet far superior as a labourer.

A great drawback to the welfare and prosperity of the Flemish peasantry is, the custom which the government has of lodging, from time to time, the military upon them, instead of building a cheap kind of barracks for the soldiers. In the winter months, this hardship is not so heavy as in the summer; but, during the busy time of the year (for example, in spring and harvest), when there is a great deal of out-door work to do, the burden is felt most severely; and the Belgic peasant is to be really pitied.

Let an Englishman fancy to himself having a troop of horse quartered in his and the other cottages in the village in which he resides, for six months at a time; and being obliged to prepare food and lodging, at about the rate of three quarters of a franc ($7\frac{1}{2}d.$ English), for each man that he is compelled to take into his house. Nor is this all; as, not to speak of the minor inconveniences, such as entering late at night, &c. &c., the soldier is rarely content with his treatment, and behaves in a most insolent and tyrannical manner to his host: and yet this has the Flemish peasant been obliged, more or less, to submit to, ever since the Revolution; and that at a time, and in places, where there was not the least necessity to quarter soldiers in the villages at all. In the village where I reside, the first regiment of lancers has been quartered from the 25th of Oct. 1834, to the present time (March 8. 1835); and the peasantry, as yet, have not received a penny for the soldiers' board: lodging they are always obliged to give gratis.

The Plant Structures in Belgium are, for the most part, of the roughest description; and put me in mind oftener of being made for bomb-proof edifices, than as a defence against wind and weather. But few are built with any degree of symmetry; and, as for a range of houses, the idea is, perhaps, unknown: at least, I never heard of any gardener or amateur who had thought of arranging his plant structures in an architectural manner. Instead of this, the houses are placed here and there, in this corner and that; so that not one single house produces a good effect: whereas, had the same sum of money been spent, and the same number of houses been arranged with taste, so as to form a handsome whole, the effect would have been good.

Nothing appears to me worse than seeing the large squares of glass, of which nearly all the plant structures in Belgium are composed, cracked and split, in various ways, by the hail and frost. The fact is, from false economy, and to save carpenter's work, almost all the plant houses are composed of squares of about 7 in. broad to 9 in. or 10 in. in length. This looks light and airy at the commencement; but, after two or three years, the large squares become cracked; and, instead of taking out the whole square, and replacing it by a new one, the gardeners are satisfied to patch up the fracture with two or three small pieces; so that there soon is an end to all lightness and beauty about the structure; while, from the small number of bars, the house is not nearly so strong as one built with smaller squares and a greater quantity of wood. After a severe winter, or a heavy storm of hail, the Ghent green-houses have, for the most part, a curious appearance; the glass roof resembling a chess-board more than any thing else.

Wondelghem, March 8. 1835.

ART. II. *On the Vegetable Excretions of Plants.* By J. B. W.

THE newly discovered function of the roots of plants, which is said to be the true cause of the necessity of frequent changes of crops, appears to have engaged the attention of several distinguished horticulturists, some of whom, no doubt, mean to extend their researches farther into this interesting subject. Before any new theory can be received as science, every reasonable objection that can be urged against it ought to be removed. I will, therefore, state a few facts which, in my opinion, deserve the consideration of those who so strenuously advocate the modern excretory doctrine.

There are several peach trees in pots in a garden in this neighbourhood, which, the gardener assured me, have not been repotted for more than twenty years; yet they annually ripen a moderate crop of fruit. These trees are supplied with food by top-dressings of rotten manure, part of which is of course carried down to the roots by the water given to the plants. Now, if the roots of peach trees give out deleterious matter, would not those to which I allude have been "sick even unto death" in less time than twenty years, confined as the roots are to the narrow limits of pots, whence they have no means of escape from its baneful influence? In another garden is a plant of the double white camellia which has not been repotted for fifteen years: still this plant every year makes young shoots, and produces remarkably fine flowers. I have likewise seen fig trees in

pots bear fruit for several years, without the soil they grew in being changed. Leguminous plants are supposed to possess the excreting faculty in an eminent degree; but plants of this tribe do not readily poison themselves; for I have known the common kidneybean grown on the same plot of ground for at least ten successive years, and that, too, without any diminution of luxuriance or productiveness. Even the strawberry plant, with which it is recommended to make experiments, in order to confirm the theory, on account of its "deposition of excrementitious matter," is frequently, in ill-managed gardens, suffered to occupy the same beds for a long series of years. Of course, after a certain period, its fertility diminishes with its age; but there is no evidence to prove that this barrenness arises from "specific poisoning of the soil." It would be quite as reasonable to ascribe the decrease of fertility to want of food, and to the crowded state of the bed not allowing the young plants properly to develop themselves. I could mention many other cases in point; but these are sufficient to show that there are at least some plants not guilty of *felo de se*; and, if this fæcal property is not universal in the vegetable kingdom, but confined to part only of its members, can it justly be made the foundation of a general theory in horticulture?

The discoverers (for there seem to be several who claim the merit) of this additional function of roots do not explain the manner in which it is effected. Do the spongioles indiscriminately suck up every thing presented to them, if sufficiently fluid to pass through their pores, and then, by a sort of elective power, with which their interior only is endowed, do they turn back all that is hurtful or useless, and allow the convertible matter alone to proceed on its course? or do the good and evil principles travel in company through all the various turnings and windings of the plant, until they are finally separated in the leaves, whence the refuse must again be consigned to the roots to be ejected at their leisure? Again, is the excrement voided by the spongioles alone, or do the whole of the roots possess that property? If the former, is there another instance in nature of one simple organ performing, at the same time, two functions so diametrically opposed as absorption and excretion?

These objections to the fæcal theory appear to me sufficiently weighty to suspend its admission into works on horticulture, as an established doctrine, until it has been further corroborated by diversified experiments. Those of M. Macaire, as quoted by G. J. T. (Vol. X. p. 12.), are by no means conclusive; on the contrary, those made with the bean plants might with equal propriety be adduced as an argument that exhaustion of the *peculiar nutritive matter* required by the bean, and not poisoning of the water, was the reason why the second plant did not thrive. If

manure had been added to the water, and the second bean plant had then refused to grow, the conclusion of the experiments would have been justified, but not otherwise. I do not mean to deny the possibility of the roots of plants having the power to expel deleterious particles: such a power may exist; but even if so, I think its injurious effects, practically considered, have been greatly exaggerated.

March 1. 1835.

ART. III. *Suggestions for a Society for promoting the Improvement of the Public Taste in Architectural and Rural Scenery.* By W. S.

THE notice (p. 20.) of an American "Ornamental Tree Society" has recalled some ideas which have long floated in my mind as to the great desirableness of having a similar society established in London, where, although a good deal has been done towards its embellishment by trees, so much in this respect remains yet to be accomplished. Who that has a genuine love of nature has not felt, when stumbling, in one of the narrow streets of the city, on an old elm, gracefully even with its soot-encrusted foliage breaking the monotonous and endless vista of brick, almost as a traveller does in the desert when meeting with a spring and its accompanying date trees? and has not been as much mortified, after another turn, in passing a second churchyard, which, for want of some friendly hand to plant a tree in it, is an eyesore to the passer-by, instead of a relief and refreshment? Who, again, in the western quarter of the metropolis, can have failed to be struck by the excellent effect of a few trees judiciously planted in the space not wanted for the kitchen area, at the ends of the corner houses of squares and large streets? and to have remarked how forlorn and disgusting those very spaces become, even though railed off, as they generally are, when suffered to remain without a tree or shrub? And, lastly, to omit other instances, who that has been charmed with the aspect of one of the squares judiciously planted and laid out, can help being as much shocked with the bare and tasteless way in which others are still suffered to remain?

Now, in all these cases, the remarks of an individual would have little or no effect in extending what is praiseworthy and rectifying deficiencies, though in both respects it is evident that public opinion, directed and supported by a numerous society, might accomplish great things, and render London incomparably more ornamented by trees than at present, including the planting of parts of the Regent's Park with a complete collection of hardy exotic trees and shrubs, as you have so often suggested: while, if the objects of the society comprised also, as I should

strongly recommend, the picturesque (if the term may be here allowed) generally, such as criticising tasteless erections, advising the general application of stucco or cement to the fronts of houses instead of the present plan of attempting to restore their new look by colouring and pointing [what bricklayers call colouring and tuck and puck], the effect of which is so transitory, and tinting the stuccoed parts with one shade of stone-colour, in lieu of the wretched Harlequin coats at present seen, &c. &c., it may be safely asserted that few associations, not directed to purposes of charity, would produce a richer harvest of enjoyment to those whose taste is already formed, or one of more instruction to those in whom this faculty yet requires to be awakened or cultivated.

I trust that these hastily scrawled hints will be expanded, by yourself or some one of your correspondents, into some practical plan of a society with objects such as I have alluded to, but with a better and more comprehensive title than that in America, which has suggested them.

London, April 6. 1835.

SUCH a society as that suggested by our correspondent appears to us to be more wanted than almost any other. The suggestion is a singularly happy one; and we only regret that our leisure and circumstances are not such as to admit of our entering into the idea, and exerting ourselves to the utmost in aiding to carry it into effect. It is for our correspondent and others, who, like him, have leisure, means, and connections, to plan and organise such a society. It will not be the first useful work or institution that W. S. has suggested or founded. We do not think a society was ever projected more likely to prosper and to do good. Could the whole community be anything like equalised in point of taste, it would go far to equalise it also in point of happiness. Whenever there is a general desire for elegant enjoyment, that desire, like every other which is general, and consequently powerful, is sure, sooner or later, to be gratified. To associate together for the purpose of promoting the public taste, therefore, is not, as might at first sight be supposed, to associate for purposes which concern only men of wealth and rank (though this of itself would be laudable), but for the purpose of promoting the general improvement and happiness of the community.

The taste of this country is altogether disproportionate to its wealth; and it is very far inferior to the taste displayed on the Continent, among nations comparatively poor. In what other city in the world but London are such interminable lines of

dingy brick houses to be found, without the slightest variation of feature, neither differing in height nor in breadth of front, nor in the number, disposition, or size of the doors and windows? Compare the long streets of first-rate houses in the west end of London with houses of the same class in Paris, Berlin, Munich, or Petersburg. By what other nation in the world would such immense sums be spent in erecting public buildings which are often, soon after their completion, found to be so unfit for the purposes for which they were intended as to render it necessary for them to be pulled down? In the short space of twenty years we have seen three royal palaces razed to the ground, all commenced during the lifetime of the present generation; and the present palace at Pimlico, we strongly suspect, will soon share the same fate. Is there any other country in Europe where a space situated like the Regent's Park, and of equal extent and natural beauty, would have been planted with so few sorts of trees, and these few so tastelessly disposed? And what shall we say to Hyde Park and Kensington Gardens, which, as far as the kinds of trees and shrubs are concerned, might as well be under the care of a common woodman? Little more can be advanced in favour of the shrubberies in the gardens of the Pimlico Palace, which are filled, for the most part, with the common stuffing of the nurseries. How is it that we can spend a million on a piece of architecture that all men of taste, foreign and domestic, agree to be most wretched, and which is, at the same time, placed in a damp and unwholesome situation, and yet cannot spare a few thousands for planting in a superior manner our public parks and gardens? The answer is easy. The public hitherto have not had a voice in this kind of expenditure. They have not been allowed a voice in any matter of taste, because they were, in a great measure, without taste to gratify. Let this taste, which at present lies dormant in the mass of society, be called into existence by cultivation, and we shall soon see a change in all our public buildings, gardens, and walks. Again, we say that the idea of promoting this object by an association is a most happy one; and we earnestly entreat our correspondents to lose no time in endeavouring to carry it into execution. In this age of cooperation, there can be no difficulty in establishing such a society. It would, in all probability, soon be joined by numbers. Architects would become members of it for the sake of the professional hints which they would receive from the discussions carried on, as well as to keep up their taste to a par with that of the society. Landscape painters and artists generally would also join it for the same purpose. Builders, and all owners of property in and about large towns, and especially the metropolis, would belong to such a society, because what tended to ornament their property would

tend also to increase its value. Men of taste would join it for the sake of mental gratification; and a large number from the idea of superiority which is generally associated with the idea of refined taste.

Most of our readers are aware that more attention is paid to the architecture of Munich, its public gardens, roads, and the beauty of its surrounding scenery generally, than is done in any other kingdom in Germany. This attention is committed by the government to a deputation of the Bavarian Agricultural Society, who publish reports as to what they think ought to be done, accompanied by remarks and suggestions, in a monthly periodical, entitled "*Monatsblatt für Bauwesen und Landesverschönerung*. Herausgegeben von einer gemeinschaftlichen Deputation der Vereine für Landwirthschaft und Polytechnik in Baiern. Munich, 4to." The motto on the titlepage consists of the words, "Agriculture," "Gardening," and "Architecture," placed on the three sides of an equilateral triangle. This publication, of which we possess several volumes, has, we believe, contributed much to the widening of streets, planting of trees along the public roads, and to the formation of footpaths, gardens, and other useful and ornamental public objects.

The time, we think, is now arrived, when an arboricultural society might be established in the metropolis; but whether this society and the one suggested by our correspondent could be united, we must leave others to determine. What is chiefly wanted from an arboricultural society would be the collecting together in one place, say of not less than a hundred acres in extent, specimens of all the trees and shrubs that will endure the open air in Britain; and the planting of them at such distances from each other as would allow them to take their natural shapes; adding to them from other countries of similar climate, whether of latitude or elevation; correctly determining the names of the species and varieties; and, finally, giving out cuttings for propagation, with the correct names, to the members, and to all the nurserymen. In short, we want done with the hardy barren trees and shrubs what the Horticultural Society has done, and still continues to do, with regard to the hardy fruit trees and fruit shrubs. One reason why we think that the subject of arboriculture might be joined with that of the improvement of the public taste in matters of scenery is, that the principal improvements which such a society would propose would consist in planting trees. In short, such a society might be designated one for the improvement of architectural and rural scenery: and it is difficult to separate the latter subject from landscape-gardening and arboriculture. Besides, an arboricultural society, though it might be kept up at a very moderate expense, at all events under 500*l.* a year, would require a powerful association

to set out with, in order to purchase the ground, which, if within ten miles of London, would, for 100 acres, cost at least 5000*l*. This sum, to a society so numerous as we have no doubt that contemplated by our correspondent would speedily become, would be much more likely to be raised than by a society exclusively devoted to arboriculture, which is not likely to command so many members.

Whether a society for the improvement of taste in architecture and rural scenery be commenced apart or in connection with an arboricultural society, at all events we trust that the former will be immediately taken into consideration. — *Cond.*

ART. IV. *A Series of Designs for laying out and planting Flower-Gardens, with Remarks on each by the CONDUCTOR.* Design 2., by LANCASTRIENSIS.

THE remarks made by Lancastriensis on the design *fig.* 29. (p. 238, 239.) are as follow: — “The plan of a flower-garden submitted to your readers in VII. p. 726–7. [and p. 239. in the present volume] has its beds too formally arranged. There are two oval beds near the dwelling, which are objectionable, on account of their being placed alongside each other, which gives them too much the appearance of mechanical arrangement, instead of the natural and picturesque. Square lines ought not to be admitted; they show at once the work of art, and that the ‘line and rule’ have been employd, which ought not to be the case. Formality cannot be too much avoided: let the trees and beds be so placed, as that to remove one would disarrange the whole, and as if they had fallen from Nature’s lap.”

These remarks are not sufficiently in detail to enable us to discover whether their author is very conversant with the subject or not. Judging from the objection made to the two oval beds near the dwelling, which are said to be “objectionable, on account of their being placed alongside of each other,” we should think not. They are objectionable, not because they are placed alongside each other, but because they are so placed as to have no indissoluble connection either with each other, or with anything else; they do not combine with the other parts of the design near to them to form a whole: on the contrary, they appear not to belong to anything in that part of the plan. It is true there are other ovals in the design; but there is not one of them that has any proper connection with the parts near it. “Square lines,” Lancastriensis observes, “ought not to be admitted,” because “they show at once the work of art, and that the ‘line and rule’ have been applied.” Would Lancastriensis

wish to form a flower-garden that would be mistaken for a work of nature? We would venture to say that such a flower-garden never was made, and never can or will be made. The most natural-looking flower-garden, that is, one in an irregular style, in opposition to one in a regular or symmetrical style, is never for a moment mistaken for a work of nature. It is in all respects as much a work of art as a geometrical flower-garden; and it is as much admired for the art displayed in its construction, as if it consisted of nothing but geometrical figures.

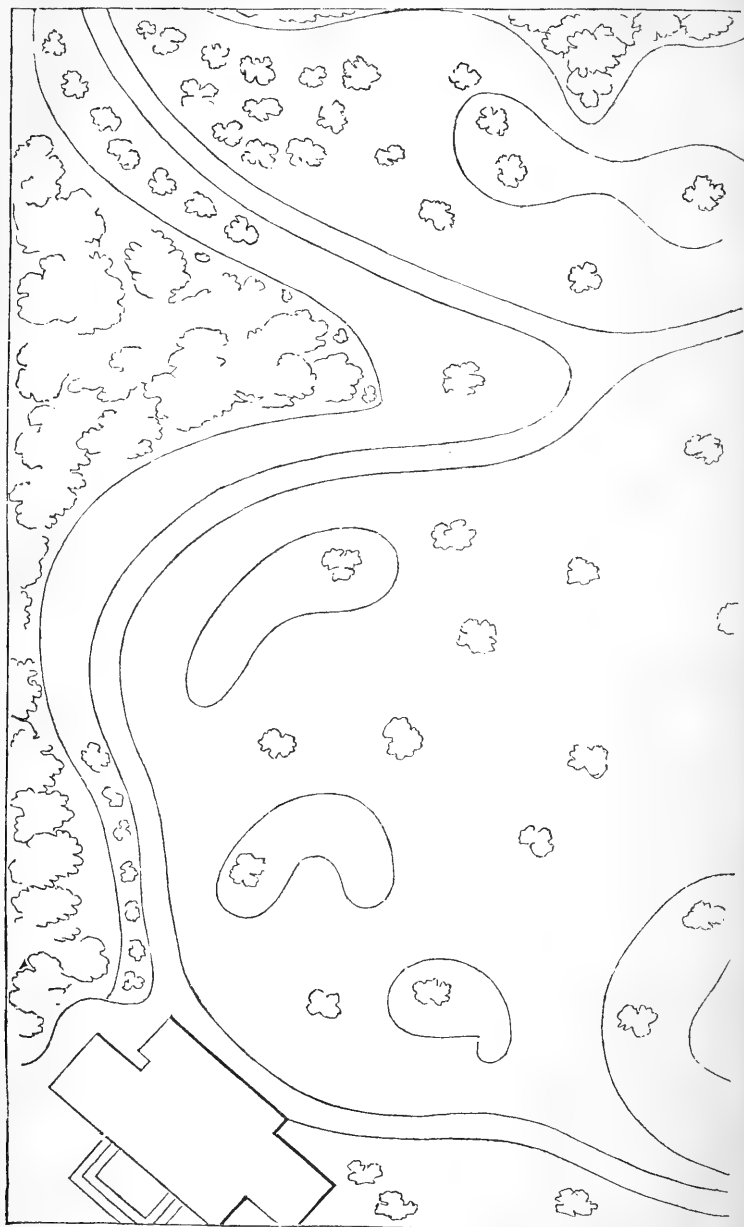
What Lancastriensis meant to say, we believe, is, that square lines indicate regularity, and that this is inconsistent with a plan which, in all its great features, is irregular.

The dicta, "let the trees and beds be so placed, as that to remove one would disarrange the whole, and as if they had fallen from Nature's lap," are rather contradictory. The first dictum, "let the trees and beds be so placed, as that to remove one would disarrange the whole," is just and correct; and no better principle can be given for testing the details of any plan: but the second dictum, "let the trees, &c., be so placed, as if they had fallen from Nature's lap," is far too indefinite; and, if it means anything, goes to say, scatter them about irregularly at random, or, in Brown's words, "here and there, as the maggot bites."

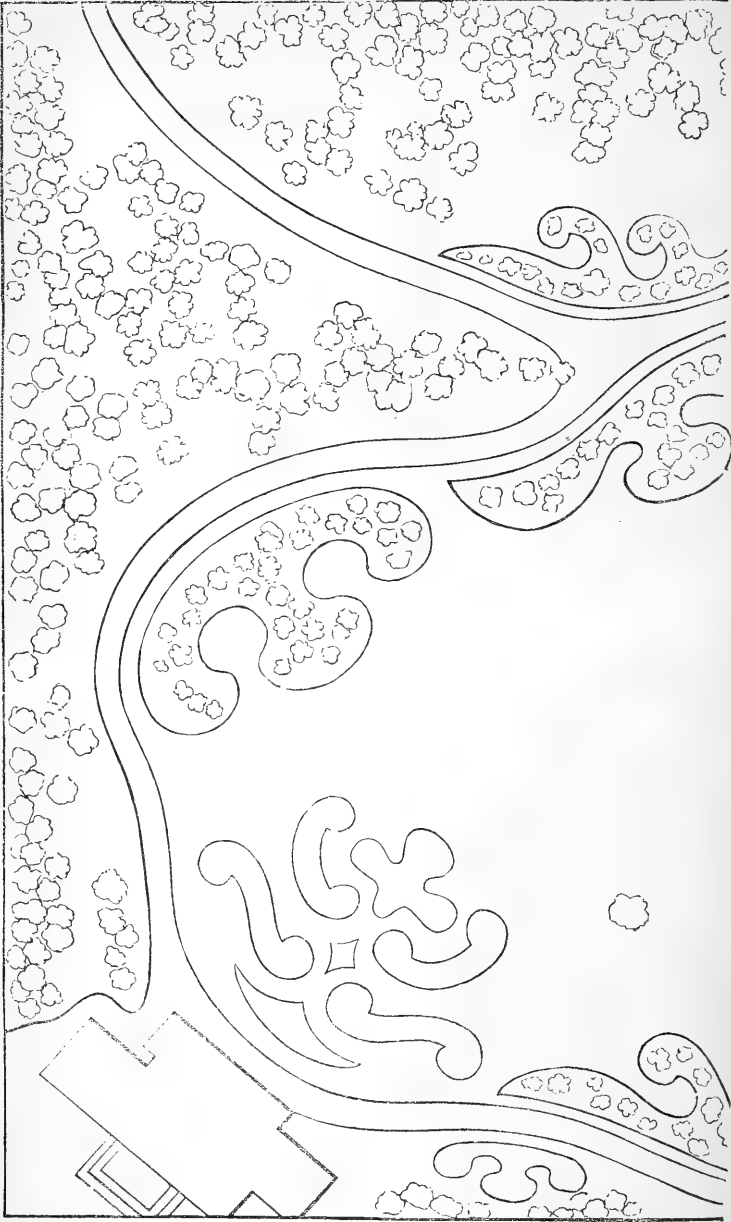
The plan given by Lancastriensis is shown in *fig. 33*. We can hardly say anything in its favour, unless it be, that the beds, being large, a sufficient number of tall-growing evergreen shrubs, such as hollies, arbutuses, phillyreas, &c., might be introduced into most of them in such a manner as to disguise their unmeaning and peculiarly unartistlike shapes.

Fig. 34, is given merely for the sake of showing that *fig. 31* is not the only mode in which a plot of ground of this shape can be decorated with beds for flowers and shrubs, and yet the same style be strictly preserved. The beds marked *a* are for flowers only; the others are for flowers and detached low-growing flowering shrubs. Some of these beds may be devoted entirely to roses, standards and dwarfs. In general, the beds containing shrubs ought to be devoted to bulbs in spring, and afterwards to low-growing spreading annuals. The symmetrical figure for flowers in front of the house should be planted with herbaceous plants, such as pinks, saxifrages, &c., which will remain green during winter, and will flower in early summer; amongst these, bulbs may appear in spring, and the whole may be removed to give place to pelargoniums, or other fine showy plants, during autumn. Of course, this supposes a reserve garden and a small glazed pit, without both which adjuncts a flower-garden can never be worth anything.

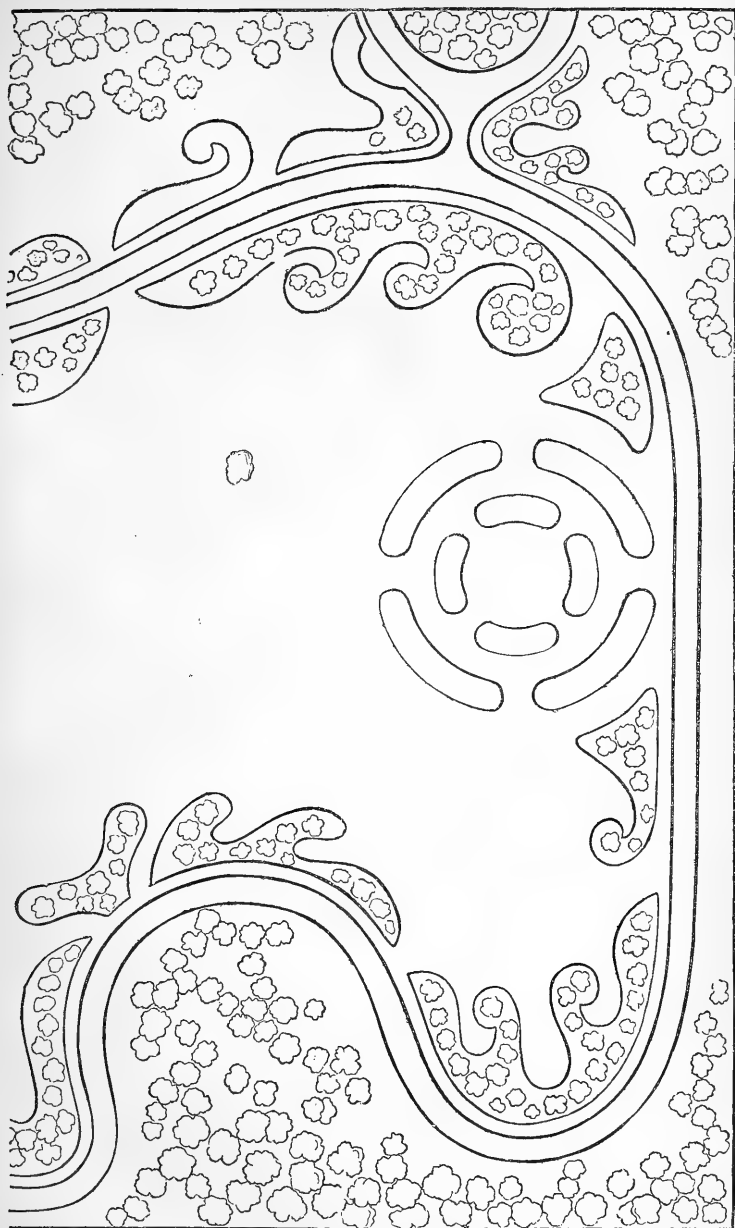
33







34



ART. V. *On the Use of Vases as Ornamental Objects in Garden Scenery.* By CALYCANTHUS.

THE attention of the antiquary, the architect, and the landscape-gardener can scarcely be directed to forms of greater interest than those of the vases which, in ancient as well as in modern times, have marked the progress of cultivated taste. To the landscape-gardener they afford the means of enriching and heightening the character of his compositions, as well as of harmonising and blending the features of landscape with those of architecture. Assuming, on the authority of Burke and Uvedale Price, that the sublime, the beautiful, and the picturesque are three distinct qualities, let us consider which of them chiefly prevails in the different forms of the vase. We shall not there find much to excite feelings of the sublime, unless it be from the circumstances of colossal magnitude and visionary obscurity; as was the case in the vase exhibited a few years ago at the Queen's Bazaar in Oxford Street. The size of this truly Cyclopean goblet, aided by the artifice of strong lights relieved by masses of shadow, could hardly fail to create admiration, amounting to awe, in even the most insensible spectator: a savage would have bowed down and worshipped it. The general outline of this vase was not remarkable for elegance, and the ornamental details, though exquisitely finished, did not show any very striking originality of design, so that, except largeness of size, and a sort of indistinctness and gloom caused by the judicious arrangement of strong lights, I can discover no cause for those feelings with which I, and most other spectators, were impressed. In most cases, however, I think that, whether we view the early specimens of Etruria, the elegant designs of Greece, or the more florid productions of imperial Rome, we find the form of the vase one of pure and unmixed beauty; distinct from Price's definition of the picturesque, and still further remote from the sublime. The smoothness and polish of the material, whether marble, cement, or bronze, increase the effect produced by elegance of form.

In the geometrical style of gardening, terraces, balustrades, and parterres were for the most part in perfect harmony with the vases and statues which contributed to ornament and enliven them. Perhaps this style might, even at the present time, be occasionally introduced with advantage; but modern art has declared so strongly against it, that the admirers of avenues and labyrinths have no alternative but to bow in submission, and endeavour to prove that their love of the old style does not arise from inability to comprehend the principles of the new.

In the modern, or natural, system of landscape-gardening, to which England has the honour of giving a name, the vase

affords to the artist a most powerful and effective instrument; but whether for good or evil depends entirely upon the other features of the scene. There is no rule without exception: but, in general, we may assert that the highest degree of keeping and order; the most graceful and flowing disposition of lines, whether of gravel walks or water; and the selection of shrubs possessing the most light and airy growth and foliage, are the preparations necessary for the vase; indeed, I may add, for most of those forms of unrivalled beauty which Greece and Rome have bequeathed to the world, and of which it may, with truth, be said That the best modern artist is he who is the most capable of duly appreciating their excellence.

If, with humbler views and limited means, we aim only at giving a picturesque and pleasing richness to a little flower-garden, vases composed of gnarled and rough wood offer themselves to our notice: one great advantage which they possess is, that they can hardly be placed in any part of the garden which they will not improve and enliven; the only mistake that can well be made is allowing too many of them to be seen at once, and thus creating a confused, instead of a rich and harmonious, effect. We sometimes meet with elegant cottages and villa residences, partly covered with climbing shrubs, and standing in the midst of a little flower-garden, to which one or two vases of rustic work give a most delightful and picturesque finish. On the other hand, it too frequently happens that a Grecian vase, though beautiful in itself, is quite unfit for the situation in which it is placed, generally without either plinth or pedestal, and throws the whole into confusion; giving, by comparison, a mean appearance to every thing around it, while, at the same time, the effect of its own intrinsic beauty, becomes neutralised and lost.

Brighton, March 13. 1835.

ART. VI. *On the Substitution of Flagstone for Gravel, in Kitchen-Garden Walks.* By the CONDUCTOR.

THE substitution of pavement for gravel, in garden walks, is an idea which has been mentioned more than once in this Magazine. Our plan is to employ flagstones, which, whatever might be their length, should be reduced to the exact breadth of the walk; in order that there might be no longitudinal, but only transverse, joints. We propose supporting the pavement on brick or stone piers, which should be founded somewhat deeper in the soil than it has ever any chance of being trenched; and, of course, as deep as, or deeper than, the soil was moved when the garden was made: the object being to insure the certainty

of the paved walk not sinking in the slightest possible degree. The advantages which we propose to be derived from this plan are two: first, a great saving in the annual expense of cleaning gravel walks and renewing the gravel, and trimming the edges and renewing them; and, secondly, the use of all the soil under the walks for the roots of the adjoining trees or bushes.

The only objection which we have hitherto heard made to this description of kitchen-garden walk is the first cost; and, doubtless, in many places this would be considerably more than gravel, where that material was on the spot, or at no great distance. When the great annual saving of labour, however, is considered, we do not think the first cost too great in cases where gravel is to be brought from a distance; or where, as in the neighbourhood of London for example, it is high-priced, and where flagstone can be easily procured by canal. In the neighbourhood of London, Yorkshire flagstone, worked or dressed on one side, can be procured, when taken in large quantities, at from 5*d.* to 7*d.* per superficial foot; while good gravel is from 6*s.* to 8*s.* per cubic yard, and box edgings from 4*d.* to 6*d.* per yard in the nurseries. Now, in such a case as this, if the piers for supporting the pavement did not require to be more than 3 ft. in height, a paved walk 5 ft. wide would not cost above a third more than a gravel walk, with box edgings, of the same width. Considering the saving of almost all future labour in the case of the pavement, and the certainty of having the walk always in perfect order and beauty, and never soft or wet during even a shower of rain, we should determine at once in favour of the pavement. There is also another argument in its favour which deserves notice, and that is, that it is not liable to harbour snails, slugs, &c., like the box.

The subject of paved gravel walks has recurred to us at this time from the circumstance of having lately heard of the invention of a machine for dressing stones by steam, by which there can be no doubt the price of flagstone will be everywhere considerably lowered. This machine, which is called Hunter's Stone-Planing Machine, has been in use at Arbroath about a year; and, last summer, it planed upwards of 100,000 superficial feet of pavement. Some details respecting it will be found in the *Arch. Mag.* for June (vol. ii. p. 283.). We are not able to state whether the Arbroath pavement resists the action of frosts and thaws as well as the Yorkshire pavement, but we can state, from nearly twenty years' experience, that it is a complete non-conductor of moisture; having had above a thousand superficial feet of it laid down, on a moist surface, as walks in the conservatories which we at one time had at Bayswater, viz. from 1816 till 1824; and above 250 ft. in a back kitchen, from 1823 till the present time. In neither case was there ever the slightest appearance of

moisture on the upper surface of the stone, however moist it may have been below. If the Arbroath pavement, therefore, resist the frost as well as the Yorkshire pavement, it is unquestionably better than any other now in use for kitchen-garden walks; we are certain it is so for walks in conservatories.

We do not recommend the use of flagstone for garden walks, or walks in pleasure-grounds, indiscriminately; though we are persuaded it might often be used in both cases, as well as in kitchen-gardens. In the case of flower-gardens, where there was not a broad turf edging to the walks, there would require to be an edging of stone, of brick, of box, or flowers; or, at all events, an edging of some sort, in order to give a proper artistical finish. In the case of walks through pleasure-ground, the turf edging would have a better effect than in the case of gravel walks, because the grass might at all times cover the edging in such a manner as never to require paring with the spade, but only clipping; by which means one of the greatest defects of modern pleasure-ground walks might be avoided, that of showing a raw line of earth between the gravel and the grass.

ART. VII. *Floricultural and Botanical Notices of newly introduced Plants, and of Plants of Interest previously in our Gardens, supplementary to the latest Editions of the "Encyclopædia of Plants," and of the "Hortus Britannicus."*

Curtis's Botanical Magazine; in monthly numbers, each containing eight Plates; 3s. 6d. coloured, 3s. plain. Edited by Dr. Hooker, King's Professor of Botany in the University of Glasgow.

Edwards's Botanical Register; in monthly numbers, each containing eight plates; 4s. coloured, 3s. plain. Edited by Dr. Lindley, Professor of Botany in the London University.


Sweet's British Flower-Garden; in monthly numbers, each containing four plates; 3s. coloured, 2s. 3d. plain. Edited by David Don, Esq., Librarian to the Linnæan Society.

EMBRYO DICOTYLEDONOUS: COROLLA POLYPETALOUS.

XXIV. *Malvaceæ*.

2023a *ABUTILON*.

(A name applied, by Arabian physicians, to a plant analogous to the marsh-mallow; and adopted, by modern botanists, for a genus of the same family. — *D. Don*.) 16. 8. Sp. 36. —

†18091 pulchellum *Swt.* pretty  fra 8 sp. W N. S. Wales 1821. C p.1 Sw.fl.gar.2.s.287.
Synonymes: *Sida* (section *Abutilon*) pulchella *Bonp.*, Loudon's *Hort. Brit.* No. 18091.; *Abutilon* pulchellum *Sweet*, in his *Hort. Brit.* ed. 2., *Hooker*, in *Bot. Mag.* 2753.

An upright, branching shrub, 6 ft. to 8 ft. high: bark of a dark olive colour; branches twiggy, tough, and flexible; leaves deciduous, cordate-oblong, $1\frac{1}{2}$ in. long, crenate, sparingly clothed, as are the young branches, with starry pubescence. Flowers, produced in great abundance, disposed in axillary

clusters, from ten to fifteen in a cluster, small, white, fragrant like those of the hawthorn. The figure was taken in spring 1834, from a plant in the Chelsea Botanic Garden, where it has stood trained to a wall for several years, without protection, growing vigorously, flowering and perfecting its seeds freely. (*Brit. Flow.-Garden*, May.) A flowering specimen of this species was exhibited at a meeting of the London Horticultural Society early in the spring of 1835; it had been sent from the garden of William Wells, Esq., Redleaf, Kent, where it had stood out for some time previous—more than a year, at least.

XXXII. *Ternströmiaceæ*. *Camellia japonica*, Thomson's *New Varieties of*. Three varieties of *Camellia japonica*, raised from seeds in the nursery of Mr. Thomson, Mile End, have flowered this spring, for the first time, and have displayed properties that are likely to place them high in the estimation of lovers of varieties of the camellia. The history of their origin is this. Seeds produced in 1827 by the variety termed *expansa* were sown in 1828. From these seeds seven or eight plants arose which have all flowered, have all proved different varieties, and all possessed of merit sufficient to entitle them to preservation; but the three adverted to above have been selected from the rest, as possessed of surpassing characters. Two of these three we saw in flower; and a painting of a flowering specimen of the third, on April 28., when we noted down the following characteristics of them. The names prefixed to them were determined on at the same time:—

Susanna: after Miss Susanna Thomson, a daughter of the late Mr. Thomson. The flower of this variety assimilates to that of the variety *Sweetiana*; and some have thought that it equals or surpasses it in the merit of properties. The petals have a white ground with pink stripes, in the manner of those of a flower of a carnation, but fewer and fainter: the centre of the flower is pretty well filled with petals. The flowers are produced in plenty.

Martha: after Martha Thomson, now Mrs. Poole. Its flower assimilates to that of *Colvilli*. The mode of its formation is somewhat that of the *warratah*. The petals have a blush ground and pink stripes: the centre of the flower filled with petals. The flowers are produced in plenty. The foliage is fine.

Wadieana: after Mr. Wadie, now, and for many years past, propagator in this nursery. Petals of a dead white colour; the flower large, in mode of formation distinct from either the old white double (*álba plèna*) or the white double fringed (*fimbriàta*): the petals are larger, and less compactly disposed; the centre is, notwithstanding, filled. The flowers last long; one had stood twenty-one days before it had fallen. The leaves are large, and

of an aspect which suggests that this variety's habit of growth is a free one.

In the *Floricultural Cabinet* for May is "A Description of eight hybrid Camellias, raised in the gardens of W. F. Campbell, Esq. M.P., Woodhall, Lanarkshire." The editor has appended this remark to the description: — "We received flowers of six of the above seedling camellias; and can assure the admirers of this deservedly esteemed genus of plants that they are most splendid varieties. Drawings have been taken; and figures of them will be given in a supplement to the *Cabinet*, which will speedily appear."

LXXXVII. *Leguminosæ*.

1963. GENISTA.

17481a ephedröides Dec. Ephedra-like $\frac{3}{4}$ or 4 jns Y Sardinia 1832. C co Maund's bot.gard.t.498

From Sardinia; hardy in Britain; pleasing in its blossoms; and so peculiar in its branches, that the inventor of the specific name has deemed them comparable to the branches of *E'phedræ*. The *E'phedræ* have not obvious leaves nor conspicuous flowers: hence it must be their branches to which comparison is made. It is probable that *G. ephedröides* is deciduous-leaved; and, if so, its ephedra-like aspect will be most obvious during the time its branches are destitute of leaves. F. Westcott, Esq., of Erdington, near Birmingham, has been the first to add the species, in a living state, to the stock of species of plants alive in Britain. He obtained the seeds from a legume upon a dried specimen from Sardinia, that was one of a collection of specimens that he had received from the German *Unio Itineraria*. Mr. Westcott has contributed the plant to the collection in the Birmingham Botanic Garden. Mr. Cameron, the curator, has found that cuttings of it strike root readily, and that it thrives in common soil. (*Maund's Botanic Garden*, May.)

2133. O'ROBUS.

19364a atropurpureus Desf. dark purple-corollaed $\frac{3}{4}$ Δ or 1 my P [Calabria 1826. S s.1 Bot. reg. 1763 Algiers, Sicily, Eastern

(*Bot. Reg.*, May.) A pleasing species in its erect stems, narrow slender leaves, and pedunculated clusters of flowers whose corollas are of a rosy-purple colour. It is possible that it is not very rare in botanical collections.

2337. ACA'CIA. $\frac{1}{2}$ Globosifloræ, Scandentes.

præsans Lowe holding-prickled $\frac{1}{2}$ \square or 40 ... Y ... [? Not yet in Britain] C s.p.1 [Bot. mag. 3408

The specimen figured was produced by a plant which has long existed in the garden of the Valle, near Funchal, in Madeira: when and whence introduced there, Mr. Lowe cannot learn. It may be, that a living plant of the species is not yet extant in Britain. In Madeira, it is a climbing shrub of extremely rapid and luxuriant growth and remarkably elegant and delicate feathery foliage; its branches are remarkably elongated, climbing and clinging tenaciously, to every thing within their reach, by their copious small hooked prickles; and are of extraordi-

narly rapid growth, quickly reaching to the top of any lofty tree within their neighbourhood; which, if unchecked, they soon, by their luxuriance, completely overrun. Flowers in pedunculated globular heads, produced from the axils of the leaves, in the terminal portion of the branches. The heads of flower-buds are of a dark dull red colour, becoming yellower as the filaments expand. The heads of flowers are scentless; but singular and handsome, from the strong contrast between the pale yellow of the bundles of stamens and the dark dull mulberry red of the intervening calyxes. (*Bot. Mag.*, May.)

CXXII. *Geraniaceæ*. May 18. 1835. — In Messrs. Dennis and Co.'s collection of pelargoniums, some of the earliest-flowering kinds are now in bloom; and some selected specimens of them are most splendid: the most notable of the kinds are the following: — Dennis's Perfection and Duchess of Sutherland. These two exquisite varieties are rather in one mode as to foliage, umbels of flowers, and shape of blossom, which is bell-shaped; the petals touching, so as to leave little or no vacancy between them: some have compared the flowers to those of an auricula, and the umbel to a truss of them. — Lord Denman: rich dark crimson, with large blackish spots. — *Hericartiædnum*: somewhat the colour of the last, with larger flowers; the spots on the upper petals not so large. — *Augustissimum superbum*: a new variety from France. — Adelina: bright rosy red; blooms very abundantly; habit graceful. — Belvidere: a fine bright red, with peculiarly bright crimson spots. — Banquo: fine red, with large very dark spots. — Amelia: a light pink, with rose-coloured spots; flowers very large. — Rosinante: a full-coloured rose, with crimson-veined spots. — New Duchess of Clarence: the delicacy of the white of the petals, and the crimson of the spots, in contrast, render this a very pleasing variety. — Medea, a pale rose with large spots. — Habránthum, abounding in its magnificent blossoms. — *Weltjiednum*: this is called a crimson purple, and has a robust habit. — *Fúlminans*: dark red; flowers large and numerous. — Black Prince: crimson purple, with very dark spots; lower petals narrow. — Statira, Captain Cook, Margaretta, Incarnatum, and Don Quixote: these are also varieties of high interest among the early-flowering ones. In the general collection there is prospect of a copious and continued flowering from the present time through June to August or September. — J. D.

CLVII. *Begoniaceæ*.

2654. BEGONIA.

petaloides Lindl. petaled.  or 1? ap Ro.W Brazil? 1832? C.l.t Bot. reg. 1757

A caulescent species, of not large proportions; leaves orbicular, cupped, of 5 to 9 lobes, incised and serrate. Flowers few in a cyme, and the cymes seated on long peduncles. In the

male flowers, the sepals are two, rosy; petals! two, white, and smaller: in the female flowers, the sepals are four, rosy; the petals! four, white, two of them smaller than the other two. Pretty; and of great botanical interest, as the presence of petals in its flowers tends much to elucidate a question on the affinities of the natural order *Begoniaceæ*, which the genus *Begonia* constitutes. Mr. Richard Harrison has living plants of the *B. petalodes*. (*Bot. Reg.*, May.)

EMBRYO DICOTYLEDONOUS: COROLLA MONOPETALOUS.

CLXX. *Ericaceæ*.

1339. *RHODODENDRON*. [arbbreum ♂ 1829. L s.p Sw.fl.gar.2.s.285
venustum *D. Don* lovely n. or 1 mr Pk.Spot Eng. hybrid, from *R. caucasicum* ♀, and

An exceedingly showy and interesting plant; raised by Mr. William Smith, now nurseryman, Norbiton Common, near Kingston, Surrey, in 1829, from seeds of *R. caucasicum* that had been fertilised by pollen of *R. arboreum*. The plant from which the figure has been taken was not more than 8 in. high, and had two large clusters of fifteen flowers each; the corollas are represented as nearly 2 in. across, and are stated to be of a rich pink colour, marked inside with dark-red spots. The leaves are 4 in. or 5 in. long, 2 in. broad; dull green and veiny above, rusty brown beneath. *R. venustum* is quite hardy, and is easily increased by layers. (*British Flower-Garden*, May.)

CLXXXVI. *Compósitæ*.

2356. *MUTISIA*.
21570a latifolia *D. Don* broad-leaved fl. or 10? o Pa.Pk.Y Valparaiso 1832. C p.l Sw.fl.gar.2.s.288

Stem shrubby, climbing, winged in the direction of its length with three leafy appendages, which are toothed. Leaves cordate-oblong, toothed, ending in a scollop or notch, in whose centre is the midrib of the leaf; which midrib is continued into a tendril 3 in. long, by whose prehension of contiguous objects the branches are supported. Heads of flowers shown to terminate, singly, axillary branches or branchlets. Of the corollas which form a ray to the head, eleven are shown; these are of a pale pink colour (that proper to them at Valparaiso: in the specimen produced in Britain they were nearly white; "a circumstance, perhaps, owing" to the plant's "flowering so late in the season"), and nearly 1 in. long. The corollas of the disk of the head are purple-coloured. The anthers yellow and prominent. "Flowering specimens of this curious and interesting plant were communicated in October last [1834], by the Rev. Townshend Selwyn, from his collection at Kilmington Rectory, Wilts." (*British Flower-Garden*, May.)

CXCI. *Caprifoliaceæ*.

621. *CAPRIFOLIUM*.
hispidulum *Lindl.* hispid-surfaced fl. or jl Ro N.W. America 1833? C p.l Bot.reg.1761

Mr. Douglas discovered this species in woods in north-west


America. The figure published is from a plant of it in the London Horticultural Society's garden. "It is quite different from all the other honeysuckles." Its stems and branches are short, slender, and weak, and more disposed to be prostrate than to entwine; the younger portions of these, and the leaves generally, are hispid, with straight distant hairs: the leaves are, in figure, cordate-ovate, green above, glaucous beneath. The flowers are small, and nearly scentless; the corollas rose-coloured, and two-lipped; the stamens prominent. "In common soil it can scarcely be kept alive; but, in peat and loam, it grows as readily as any other hardy American plant." (*Bot. Reg.*, May.)

CCXI. *Scrophulariææ*.

1783. *MIMULUS*.


The conductor of the *Floricultural Cabinet* has noted, in the number for May, that he, in a recent visit to York and its neighbourhood, was much pleased to see several very strikingly handsome varieties of *Mimulus*; which had been raised, by cross-impregnation, from the *M. variegatus*, *roseus*, *luteus*, *Youngii*, *Smithii*, *bifrons*, &c. These were in the possession of lovers of flowers and of floriculture, and of Messrs. Backhouse, nurserymen, York.

CCXIV. *Acanthaceæ*.

1727a. *GOLDFUSSIA* Nees. (In honour of Dr. Goldfuss, professor of natural history at Bonn upon the Rhine.) 14. 2. Sp. 13, and 1 doubtful additional.
 †15508 *anisophylla* Nees unequal-sized-leaved  or 3 in. au B Silhet 1823. C l p Bot.mag.3404
 Synonymes: *Ruellia anisophylla* Wal., *R. persicifolia* B. R., *R. amygdalæfolia* Hort.

Well known as *Ruellia anisophylla*. The leaves have this striking peculiarity: their midrib and nerves are prominent on the upper side of the leaf, and sunk into the substance of the leaf on the under side; except the midrib, which is slightly prominent. On each side of the nerve, however, on the upper side, the parenchyma forms a closely placed elevated line. (*Bot. Mag.*, May.)

CCXXI. *Labiataæ*.

1692a. *CHILO'DIA* R. Br. (*Cheilos*, a lip, *odous*, a tooth; the tip of the lower lip of the calyx is bifid.) 14. 2. Sp. 1.—
 †28745 *scutellarioides* R. Br. *Scutellaria*-like  pr 2½ var. sea V N.S.Wales 1829. Sp.1 Bot.mag.3405
 Synonyme: *C. australis*, No. 28746. in first *Add. Suppl.* to Loudon's *Hort. Brit.*

Has the habit, and form of corolla, of a *Prostanthæra*. In its wild state in New South Wales, where it is of rare occurrence, it is a shrub from 2 ft. to 3 ft. high; with numerous long, upright, slender branches. Cultivated in the Kew collection, it is of more diffuse and bushy growth, forms a handsome hardy green-house shrub, and flowers freely at various seasons. The flowers are produced in the terminal portion of the branchlet, one from the axil of a leaf; the leaves, generally, are half an inch long, sessile, linear lanceolate; the corolla is a five-lobed little bell, of a violet-blue colour. (*Bot. Mag.*, May.)

EMBRYO MONOCOTYLEDONOUS.

CCXXXVIII. *Amaryllidæ*.

933. NARCISSUS.
7607a maximus *D. Don* largest ♂ Δ or 1 ap Y ... O co Sw.fl.gar.2.s.286
A'jæ maximus *Haworth*, in his *Monographia Narciss.*

Nearly related to *N. propinquus*, but larger in all its parts. The figure published was taken from a plant which flowered in Mr. Haworth's collection, in April, 1831. Mr. D. Don has looked in vain for it in other collections around London. (*Brit. Flower-Garden*, May.)

CCXL. *Orchidæ*.

2496. NEOPTIA.
calcarata *Swz.* spurred-lipped ♀ ☐ cu ¾ ... Ysh.G Jamaica, St. Domingo [Bot. mag. 3403 1834? O s.p]

Leaves 3 in. or 4 in. long, elliptical, acute, of a deep yellowish green. Scape 8 in. or 10 in. high, bracteate; bearing six to seven distantly placed, pale, yellowish green flowers. Sepals, petals, and lip of an awl-shaped figure; the sepals near 1 in. long. Base of the lip produced into a lengthened spur . . . the petal and lip shorter. Figured from the rich collection of C. Horsfield, Esq., Liverpool, into which it had been introduced from America. (*Bot. Mag.*, May.)

2540. ONCYDIUM.
2267a citrinum *Lindl.* lemon-coloured-flwd. £ ☐ or 5? n Lem. Trinidad 1833? O p.r.w [Bot. reg. 1758]

So near to *O. altissimum*, that it may be, not a species distinct from that, but a variety of it. These are some of those of its features in which it differs from *O. altissimum*: scape not branched, flower less spotted, sepals and petals less acuminate, crest of the labellum tuberculate rather than digitate. Drawn from a plant in the collection of Messrs. Loddiges: this plant is since dead; and *O. citrinum* "is, for the present, lost to the country." (*Bot. Reg.*, May.)

2532. ZYGOPETALUM £ *Dr. Hooker*, Terrestrial ♀ *Dr. Lindley*, 22659, Mackaii *Hooker*, in *Bot. Mag.* 2748.

2 crinitum *Lindl.* hairy-lipped £ ☐ or 1 o W.SpotG Brazil 1829. D p.r.w. Bot. mag. 3402
Synonymes: *Z. Mackaii* var. *crinitum* *Hook.* in *Bot. Mag.* 3402; *Z. crinitum* *Lodd.* *Bot. Cab.* 1687; *Eulophia crinita* *Loudon's Hort. Brit.* No. 28857.
? 3 [intermedium] *Hooker*, in *Bot. Mag.*, t. 3402. in the text.
Synonyme: *Eulophia Mackaiana* *Lindl.* in *Bot. Reg.* t. 1433.

"Indeed, the *Eulophia Mackaiana* of the *Bot. Reg.*, t. 1433., appears to be intermediate between the true *Z. Mackaii* [that of *Hooker*, in *Bot. Mag.*, t. 2748.] and our present plant" [the *Z. Mackaii* var. *crinitum*]. (*Dr. Hooker*, in *Bot. Mag.*, May.)

2558. BLETTIA.
reflexa *Lindl.* reflexed-sepaled ✕ ☐ or 2 n P.G.W Mexico 1833? O p.l Bot. reg. 1760

Distinguishable, at once, from other known bletias by "the greenish colour of its flowers, and the remarkably narrow reflexed sepals." The figure was "drawn in the hot-house of the Messrs. Loddiges, in Nov. 1834:" two flowers are represented upon the one scape. In wild specimens, collected by Baron de Karwinsky, the scapes bear each from two to four flowers; and the flowers have a rich purple cast upon every part. (*Bot. Reg.*, May.)

Certain Dendrobiums. — A figure and description of *Dendrobium Pierárdi* Rox. are published in the *Bot. Reg.*, May, t. 1756. Dr. Lindley has there noted certain marks of distinctness between it and *D. cucullatum* Br., which he had, in his *Gen. and Sp. Orch.*, deemed identical. He has “since had an opportunity of comparing *D. Pierárdi* and *cucullatum*, side by side, in the utmost perfection, in the stove of the Messrs. Loddiges; where these lovely species flowered, in great splendour, in Jan. [1835]; forming festoons 2 ft. or 3 ft. long, quite covered with the most delicate pink and yellow blossoms.” Dr. Lindley has appended to his account of *D. Pierárdi*, and notice of *D. cucullatum*, distinctive descriptions of certain species allied to these, most of which had not been previously made known to botanists. These are: *ochreatum* Lindl., a beautiful plant, flowers expanded, 3 in. across, pale, labellum spotted with purple; inhabits Chittagong. *Cunninghâmia* Lindl., nearly allied to *biflorum* Swz.; Mr. Richard Cunningham had obtained the specimen described in New Zealand, near the sea, where he had found the species upon the trunks of a species of *Callistemon* which Mr. Allan Cunningham has named *ellipticus*. *Biflorum* Swz. redescribed from specimens received from Mr. Mathews, “who found it in Otaheite, hanging from the branches of trees.” *Griffithianum* Lindl. described from a specimen communicated by W. Griffith, who has given, as its habitat, trees in the Burman country: “a beautiful species, with much of the appearance of *D. aggregatum*.” *Extinctorium* Lindl. described from a specimen communicated by W. Griffith, who has given, as its habitat, trunks of *Carèya arborea*, in moist places, in the Burman country: its side sepals have their bases lengthened into a process resembling an extinguisher (*extinctorium*). “This is next *D. pusillum* Blume.” It is not stated whether a living plant of any of these has been received. (*Bot. Reg.*, May.)

LEPANTHES Swz.

(*Lepos*, bark, or *lepis*, small, *anthos*, flower; because the plants of this genus have very small flowers, and grow upon the bark of trees. — Lindley.) 20. l. Sp. 1. —

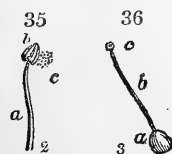
tridentata Swz. three-toothed-*lfd.*  cu 4 ja P.Y Jamaica 1834? D moss Bot.reg.1762

One of the most pygmy of *Orchideæ*. The species of *Lepanthès* have the habit altogether of the species of *Pleurothallis*. *L. tridentata* is the species which has first been seen alive in Europe. It is a native of the highest parts of the mountains of Jamaica, where it is found growing on the bark of trees among mosses. In Britain, it can only be preserved alive with great care, by being placed under a bell-glass, among damp moss, in a cool part of a stove. Dr. Lindley received it from Messrs. Loddiges, in Jan. Its stems are in little tufts or groups; they vary in stature from 2 lines to 2 in: each bears a leaf which is ovate-oblong, $1\frac{1}{2}$ in. long, thick, and seems, to the naked eye, to end in a sharp point; but this point consists of three teeth; those of the

stems that bear flowers are terminated by a bracteated peduncle, upon whose tip the flowers, usually two, are disposed. Diminutive in magnitude as is *L. tidentata*, it is not less interesting in structure than larger forms: a proof of this may be found in the description, and seven figures of magnified views of it, produced in illustration of this point, in the *Bot. Reg.*, May.

ART. VIII. *Notes and Enquiries on certain Species of Plants which have their Sexes diœcious.* By JOHN DENSON.

It is stated that all species of plants have sexes, except the species of the kinds which Linnæus referred to his class *Cryptogamia*. The sexes in plants are analogous to the sexes in animals in their subservience to the multiplication of the individuals of each of the species to which they and the individuals belong. The offices of the sexes are, in plants, exercised in the stamens for the male sex, and pistils for the female sex. *Fig. 35.* represents a stamen, of which *a* is the filament, *b* the anther, *c* the pollen.



The filament is not an essential part of a stamen, and, in some species of plants, is so diminutive as to be inobvious. *Fig. 36.* represents a pistil, of which *a* is the ovarium, or germen, which includes the ovules or rudiments of seeds; *b* the style, *c* the stigma. The style is not an essential part of a pistil, and, in some species of plants, is wholly absent. The function of these two kinds of organs is

this: pollen (*fig. 35. c*) is shed from the anther (*fig. 35. b*); and, from the pollen, an essential property or properties is acquired to the ovules within the ovarium: and this by the intervention of the stigma and the style, in species of plants which have these. Not any ovule that has not been imbued with the essential property or properties from the pollen can become a seed capable of germinating to the production of a plant.

In plants, the sexes are comported in four modes: — 1. Both sexes in the same flower in every flower borne by the same species of plant. 2. Each sex separate in distinct flowers upon every plant of the same species. 3. One sex in every flower borne by one plant, the other sex in every flower borne by another plant; the two plants included in one species, which species they constitute. 4. The sexes separate in distinct flowers, and together in other flowers, upon one plant, constituting a species, or upon two plants constituting a species. The sexes, when comported in the 1st mode, are termed hermaphrodite; in the 2d, monœcious; in the 3d, diœcious; in the 4th, polygamous.

Certain of the species of plants which have their sexes diœcious are the subject of the following notes, whose foremost object may be expressed in questions like the following: — Of how many of the diœcious-sexed species of plants, exotic to Britain, yet cultivated in it, are there both sexes possessed? What are these species? Where are living plants of their sexes? Which are the species of which but one sex is possessed? Which of the two sexes is this one? Where is a living plant of it? The object of the enquiry which these questions include is to obtain the information for which they ask. This would have been, it may be deemed, more manifest, and the mode as likely to be effective of the result desired, had questions equivalent to the above been simply proposed, and a list presented with them of the names of the species of plants which are subject to these questions. I hope, in apology, that the details, and the attempt to be botanical, into which I have allowed myself to digress, will not repress the contributions of any of those of my practical brethren who may be in any degree able to contribute to elucidate

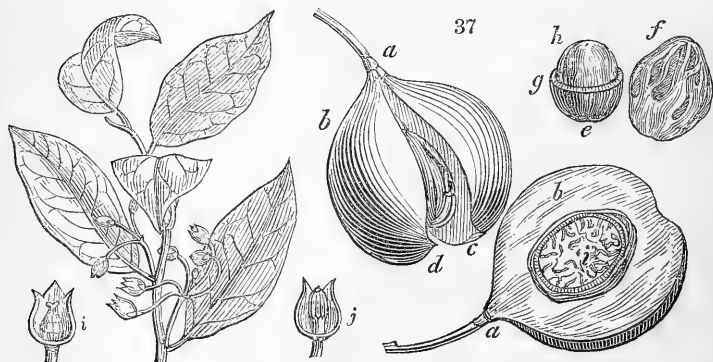
the subject which the above questions include; and that the broken botany in which I have, in this my first essay, indulged, may not be without some use to junior readers who may be engaged in the studying of plants.

I had intended to adduce here a notification of the advantages derivable from what may be termed an examination of the statistics of the diœcious-sexed plants extant in Britain, and of the instruction acquirable from an examination of the sexual condition of the plants themselves; but as I have not yet noticed more than a share of the species which I propose to notice (perhaps, in future, they will be noticed in a shorter manner), and as one's latest notions may, perhaps, be more correct than one's earlier, I reserve the expression of them till last.

Division I. *Plants which invariably, or nearly so, have their Sexes diœcious.*

Myristicææ. — Flowers diœcious, with no trace of a second sex. *Males*: filaments completely united into a cylinder [monadelphous]; anthers 3—12., either connate or distinct. *Females*: ovary superior, sessile, with a single erect ovulum; style very short; stigma somewhat lobed. (*Lindley's Introd. to Nat. Syst. of Botany*, p. 23.) Fruit as explained below.

The several species of nutmeg are included in this order. Sweet's *Hort. Brit.* and Loudon's *Hort. Brit.* show that three species have been introduced into Britain. Is a plant, or are plants, of each of them still living here? Has each flowered? Of which sex is it? In this Magazine (iii. 67, 68.) is an account of the *Myristica moschata*, which produces the spice, nutmeg, in general use, and an engraving of it, both derived from Curtis's *Botanical Magazine*, for August 1827. In the engraving here reproduced (*fig. 37.*),



j represents the male flower, and *i* the female; and the two will elucidate, and be elucidated by, the portion of the definition of the order which I have quoted above. From *Gard. Mag.* iii. 67., I quote this description of the fruit: — “The fruit (*a*) is a drupe, of the size and somewhat of the shape of a small pear. ‘The flesh (*b*), which abounds in an astringent juice, is of a yellowish colour, almost white within, and four or five lines in thickness: this opens into two nearly equal longitudinal valves (*c, d*), and presents to view the nut (*e*) surrounded by its arillus or mace (*f*), which soon drops out, and the husk (*b*) withers.’ The colour of the nut, when fresh, is a brilliant scarlet; when dry, it becomes horny, brittle, and of a yellow brown; the shell (*g*) is very hard, and not above half a line thick; it envelopes the kernel, or nutmeg of the shops (*h*), which is of an oval or elliptical form, pale brown, and afterwards furrowed on its surface. Its outside is very thin; its inner substance, or albumen (*i*), firm, whitish, with red veins, abounding in oil.” I once purchased at a grocer’s two nutmegs yet enveloped in their shells (*g*),

the shells in a perfect state: possibly such are not rare in British commercial stores of nutmegs. The acquisition of such, the purchasing of a small quantity of mace, and the imagining the husk (sarcocarp) of the fruit of the almond to be analogous to that of the nutmeg, would enable any one to conceive pretty clearly, I think, of the general structure of the fruit of the nutmeg. What follows, quoted from the *Gard. Mag.*, iii. 67, 68., shows a case in which a knowledge of the fact that plants have sexes, and of the offices of these sexes, has been of avail to the effecting of important ends. "The Dutch, having possession of the Spice Islands in 1619, encouraged to the utmost of their power the cultivation of the nutmeg in a few of them, pursuing the same line of policy as they did with regard to the clove, and long retaining the monopoly of culture: but, in 1722, M. Poivre introduced the nutmeg to the Isles of France and Bourbon, as well as the clove; from thence it was sent to the West India Islands, and afterwards taken by the British to Bencoolen, in Sumatra, where it is grown in the greatest luxuriance. The Dutch appear to have been totally ignorant of the diœcious nature of the nutmeg tree, and of the consequent sterility of many of the trees; but the French in the Isle of France, ascertaining that one male plant is sufficient for a hundred females, graft seedling plants with the two sexes in that proportion; and hence, besides having no superfluous trees, the plantation comes much sooner into bearing."

Magnoliaceæ. "The flowers of *Mayna* are diœcious." (Lindley, in *Introd. to Nat. Syst. of Botany.*) Brief descriptions of three species of *Mayna* are in De Candolle's *Prod.*, i. 79. One species is a shrub in Cayenne, the other two, trees in Brazil.

Laurineæ.

Laurus nobilis, the sweet-scented bay. The male sex is figured in *Flora Græca*, t. 365., where the author of the attached description has noted that he had not seen the pistil of the other sex. A coloured figure of the fruit is given. Plants of the sweet-scented bay are common in the gardens around London; and some plants that I have seen this spring (1835) have flowered profusely. Among them, plants of either sex are not rare. Both sexes had commenced flowering on April 27. in the garden of the London Horticultural Society, when I there examined flowers of them. The male plant is the more showy of the two in its flowering, from the pale yellow sepals, yellow anthers, and yellow sterile stamens as I believe they are deemed to be. The flowers of the female are, in figure and structure, much like those of the male, but have the sepals greener, and a conspicuous green ovary in the centre. About four of the yellow bodies, which are deemed, I believe, sterile stamens are in every flower, between the germen and the sepals, but scarcely show their colour to the passing eye. Flowers in either sex not obviously fragrant. Where male and female plants stand together, the latter may, in autumn, excel in beauty in its fruit. Is the form, even, of fruit produced on feminine plants that stand solitary? I think that, in some instances of flowering plants of the male sex, they have shown a freer habit of growth, broader and more flatly expanded leaves, than female plants in flower. If this difference in foliage be characteristic of the sex, and obtain in young plants, it might guide a planter in selecting them of the sex or sexes eligible for his purpose in view.

"*L. Sassafras* has the flowers often imperfect as to the male and female organs; which, before observation was so accurate and scientific as at present, led to the conclusion that one plant bore only males, and the other only hermaphrodites: it is now found that the alleged males are only imperfect hermaphrodites." (Quoted in *Encyc. of Plants*, 1829, from Thomson's *London Dispensary.*)

Of this species, there is a fine tree in the nursery of Mr. Osborn (lately Messrs. Whitley and Co.'s), Fulham; and another in the nursery of Mr. Thomson, Mile End. These will, it is probable, be flowering at the time this appears: would the proprietors be pleased to examine a proportion of the flowers, and communicate the result of their observation?

Tetranthéra. This genus of the *Lauríneæ* is placed, in Loudon's *Hortus Britannicus*, 1830, in the Linnæan class Ennéandria, order Monogýnia. In Sweet's *Hortus Britannicus*, it is referred to the Linnæan class Diœcia, order Ennéandria. If the latter reference be correct, its species, of which eight are given in Loudon's *Hort. Brit.*, four in Sweet's *Hort. Brit.*, are addible to *Laúrus nóbilis* as so many more diœcious-sexed species of *Lauríneæ*.

In the structure of the anther in the *Lauríneæ*, a very interesting point, one that the student of botany should take the first opportunity to make himself acquainted with by examination, is, that each cell of the anther opens (to admit the disengagement of the pollen) by a longitudinal valve, which separates in the order of from its base to its apex, and remains attached by this latter point. The cells of most anthers open by a simple separation of a seam or suture; but in the *Atherospérmeæ*, *Lauríneæ*, and *Berberídeæ*, by adaptation of a specific structure, like that described. In the *Ericææ*, each cell of the anther opens by a terminal pore or cleft; and similarly in some other plants.

Menispermææ.

Menispermum canadense.

The male of *M. canadense*. The figure of *M. canadense* in Curtis's *Bot. Mag.*, t. 1910., represents the male sex of it; and Dr. Sims has noted in the text, that "the Canadian moon-seed has been long cultivated in our gardens, but we have never seen any but male plants." The figure had been derived from a plant which had flowered in July, 1815, in the garden of John Walker, Esq., of Arno's Grove. I have not known of any but male plants; these were in the Cambridge Botanic Garden, and at the botanic garden at Bury St. Edmunds, and in some garden in, I believe, either Suffolk or Norfolk, out of which the Rev. G. R. Leathes had brought a flowering specimen, with, perhaps, a plant, to the Bury Botanic Garden. Of the plants of this sex, previously established in the Bury Botanic Garden, it is likely that the original stock had been derived from the Cambridge Botanic Garden. The collection of the former garden had been from time to time extensively enriched from the collection of the latter.

The female of *M. canadense*: is this living in Britain? De Candolle has described (*Regni Veget. Syst. Nat.*, i. 540.) its flowers to be few, disposed in the mode of a corymb, not of a panicle or raceme, as those of the male are; their pedicels shorter than those of the male flowers; ovaries, from two to four. He has described the fruit of all *menispermums* to be a berried drupe, roundish kidney-shaped, one-seeded.

Three female plants of *Menispermum*, whether of one, two, or three species, and whichever this species is, or these species are, exist, or did lately exist, in the following places:—

One plant in Lee's nursery, Hammersmith, Middlesex. Mr. Loudon saw there, late in October, 1834, a plant of *Menispermum* with fruit upon it; consequently a female plant. One fruit off this plant, now by me in a dried state, I have noticed farther in p. 305. [It is called *M. canadense* at Lee's, May 26.]

Two plants in the Cambridge Botanic Garden; where one is labelled *Menispermum virginicum*, the other *Menispermum carolinum*. I have seen these two plants in flower; not since 1832, perhaps not so lately; but it is probable that both still exist and are flourishing there, as formerly. Each of these two plants had, if I have remembered rightly, a strong likeness to the other: they might be only of one kind. Each had, I think, the larger of its leaves ampler than the larger of those of a plant of *canadense*, male, which stood near them; and they had their leaves with more prominent and more acuminate lobes. I think that a circle 12 ft. or so in diameter would include the points which the three plants occupied; and that the three plants flower at one time, or nearly so, the male one, perhaps, the earliest: yet I know not whether the two female plants have ever borne fruit.

M. virginicum L.

De Candolle has deemed (*Syst. Nat.*, i. 540.) this a variety of *M. canadense*, and has named it "*M. canadense* β lobatum," and has defined it as having its

leaves angled more acutely. Sweet has not registered, in his *Hort. Brit.*, 1830, the kind, either as a species or as a variety. In Loudon's *Hort. Brit.*, 1830, it is registered as a species named "virginicum W.;" and a reference is there given to Dillenius's *Hortus Elthamensis*, 178. 219., for a figure of it. On the sex of this form of *Menispermum*, whether it be a species (*virginicum L.* or *virginicum W.*), or a variety of *canadense* (*canadense* β *lobatum Dec.*), Decandolle has not stated anything. In Dillenius's figure, the female is represented, as I have learned from the text appended to t. 1910. of *Bot. Mag.*; but whether this sex alone, I do not know.

M. carolinianum L. Dr. Sims has noticed in the text to t. 1910. of *Bot. Mag.* that Linnæus has expressly stated that the fruit of his *carolinianum L.* is red.

M. dæuricum.

De Candolle has stated (*Syst.* i. 541.), in his description of this species, some particulars upon the male flowers, and remarked of the female ones that he has not seen them.

M. smilacinum.

De Candolle has stated that the female sex is unknown; that is, not any notice of it is registered in the published works on botany. Hence, we learn that the figure of this species in the *Encyclop. of Plants*, No. 13999, which has doubtless been copied from Jacquin's figure, represents the male sex; and, on inspecting the figure of the flower with a lens, some stamens are shown. Of which ever sex the plants of *M. smilacinum* which are cultivated in Britain may be, the fact of their flowering is not registered in either Sweet's *Hortus Britannicus* or Loudon's; hence it may be that this species has not yet flowered in Britain. It might be well to subject it to the mode of culture for inducing flowering recommended by E. B. in p. 19. I have placed *M. smilacinum* in this list of hardy dioecious-sexed species of plants from having known of a plant of it (by the synonymous name *Cissampelos smilacina*) living some years in the Cambridge Botanic Garden, led up wires in the front of the conservatory, outside.

M. Lyoni Ph.

Both sexes of this are noticed in the description in De Candolle. Which of them is, or, are both of them, living in Britain? — The deciduous-leaved ligneous kinds of *Menispermum* are interesting shrubs in their twining habit, and in the beauty of their peculiar foliage. They have not showy flowers; but the pendulous compound clusters of those of the male of *M. canadense*, of a pale yellow colour, mainly from the numerous exserted anthers of this colour, are elegant and ornamental. The flowers of the female plants are less ornamental, but it may be that these have the finer foliage. I have as ground for this idea only the impression stated under the notice of the two female plants, in the Cambridge Botanic Garden; *M. canadense*, male, is registered as flowering in June and July, and assuming that the males of all the kinds flower, say in summer, the proportion of ornament which their flowers, more conspicuous than the flowers of the females, would then supply, would render these desirable for decoration in summer time; while the drupes which the female plants would be likely to bear were they stationed in the society of plants of the other sex (would they bear any, even any whose seeds were devoid of embryos, if they stood solitary?) would render them interesting in autumn when their drupes had become ripened. A dried drupe of the plant which Mr. Loudon saw bearing fruit in Lee's nursery late in October, 1834, is of a black colour, suffused with a slight glaucous bloom, is about three eighths of an inch across, not spherical, but with flattened sides, not quite orbicular, from a straightness about the point of its attachment to the pedicel; wrinkled, probably from shrinking in drying. The fruit of *M. carolinianum L.* is, Linnæus has stated, of a red colour. (Dr. Sims in *Curt. Bot. Mag.* t. 1910, in the text.) The drupe of *M. Lyoni* is, Pursh has stated, black and large; this species is stated (De C. *Syst.* i. 541.) to be a herbaceous, not a ligneous one.

The deciduous-leaved ligneous menispermums may be additionally recommended as hardy, free of growth, thriving in almost any soil and situation, and increasing freely by their sprouting suckers. *M. canadense*, male, has, at least, these properties; and the assimilating kinds have, it is most probable, the same.

When transplantation of the deciduous-leaved ligneous menispermums is intended, the performing of it in autumn, winter, or very early in spring, will prevent that diminution of the plant's beauty in the following summer and autumn, which a later transplanting tends to cause. *M. canadense*, male, leafs so late as, sometimes, the middle of May, yet it is probably active in its roots as early as January.

Elæagnæ. — “. . . . Flowers diœcious, rarely hermaphrodite.” (*Lindley's Introd. to Nat. Syst.*, p. 68.)

Hippóphæ. — “Some of the flowers are reported to have stamens and pistils occasionally in the same individual.” (*Smith*, in his description of the genus in the class Diœcia, order Tetrándria, in his *English Flora*, iv. 237.)

H. rhamnoides. (*fig. 38.*, 13879.) *



The male sex (13879. *a*). Are not most of the plants of *H. rhamnoides* that are in the gardens of Britain of this sex of it? I had not seen, until April 28. 1835, a plant of the female sex of it; although I had inspected plants, and examined some flowers, of *H. rhamnoides*, through the space of some years previous, mainly in gardens of Cambridgeshire and Suffolk, and previous to 1830, in the wish to become familiar with it. On April 28. 1835, I had the gratification of seeing the fruit-bearing sex, in the arboretum of Messrs. Lodiges, Hackney, standing near a plant of the male sex. The plant abounded in fruit (13879, *c*) in the terminal portion of its branches; and this fruit must have been persistent through the winter. Plants of the male sex, in individuals old enough to bear flowers, may, when bearing flower-buds, be distinguished in winter, when the branches are leafless, even without an intimate examination of the flower, by the knotted character which the very numerous spikes of flower-buds give to the branchlets which bear them. The flower-buds blossom before the expansion of the new leaves in spring, and, I believe, in the early part of April. This is about the time, or a little earlier than the

* The engravings which accompany this are upon the same block, and hence are not conveniently separable: they represent, 13882., *Schæffèria complèta*; 13880., *Broussonètia papyrifera*, one of the sexes; 13887., *Nagèia Putranjiva*. Information on these is contained in the *Encyc. of Plants*, where these engravings have been first given.

time, at which the flowers of the female sex are developed. The flowers are not more showy than the flower-buds, except that they are more tumid, and the spikes, doubtless, somewhat enlarged in consequence. They have not a corolla; and the sepals do not diverge and display the yellow anthers of the stamens they enclose, as shown in 13879*a*; in which the flower is, I presume, so shown for the purpose of botanical illustration.

The female sex. The flowers are borne upon the basal part of the shoots that are produced in the spring (13879*b*); and the protrusion of these is, I think, usually commenced in the after part of April: this shoot, as elongated in the course of the season of growth, is shown in 13879*d*, with the fruit at its base in the situation the female flowers had occupied. It has been intended, I cannot doubt, to represent the flowers at the point *b* in the annexed figure. In Smith's generic character of *Hippóphæ*, in *E. F.* iv. 237., the words "Flowers from the same buds [as the leaves], below the leaves, aggregate, small, greenish," are applicable to the flowers of the female; and although these flowers may be situate below the main tuft of leaves that is to be separated as the shoot shall be lengthened, and the leaves rendered farther asunder, yet it appears that smaller leaves, perhaps only rudimentary ones, are below the larger ones, among the flowers; and that the flowers themselves are situated singly in the axils of these leaves. They seem shown to be so in Nees ab Esenbeck's excellent figures (*Gen. Floræ Germanicæ Icon. et Descript. illustrata*). In *Encyc. of Plants*, part of the generic character is, "Male flowers in a catkin; tetrandrous. Female solitary in the axillæ of the leaves:" and it may be hence concluded that the words of Smith, "Flowers green, minute, solitary in the bosoms of some of the lowermost leaves while very young," in his detailed description of *H. rhamnoides* *Eng. Flora*, iv. 248., relate to the flowers of the female sex only.

The fruit of the *H. rhamnoides* var. *angustifolia*, as seen dried and pressed in a dried specimen now present, reminds one of the fruit of the asparagus when shrivelled or pressed; hence it is much larger, say thrice the size shown in the figure (13879*c*). Its form cannot be stated from the specimens: that given in the figure agrees with Smith's description quoted below. As to its structure, it is termed a berry by Smith; a drupe, or an achæmium clothed with the fleshy perianth, by Nees ab Esenbeck; and this last definition agrees with that given of the fruit of the genus in *Encyc. of Plants*, namely, "fruit formed of a berried calyx and akenium." That which is here called "achæmium" Smith has termed, in *Eng. Flora*, iv. 237., a solitary seed "invested with a double membranous tunic, the outermost, perhaps, only the proper lining of the cell." Notices on these technical points may be less pleasing to the reader, and here less in place, than the following information, which will, it is hoped, beside pleasing, tend to cause plants of the female sex of the *H. rhamnoides* to be more sought for and planted in a number more equal with the male than seems to have been its case hitherto. Smith, in his *Eng. Flora*, has thus noted in relation to the fruit of *H. rhamnoides*:—"Berries somewhat stalked, rather elliptical, orange-coloured, simply but powerfully acid, pleasant enough when preserved with sugar. They are seldom, if ever, ripened in gardens [British ones], though the shrub is commonly cultivated for the beauty and singularity of its foliage. Gardeners should attend to the flowers being diœcious, and plant both sorts together." It is above made known that Messrs. Loddiges have a plant of the female sex; and, doubtless, they cultivate plants of it for sale.

On the fruit, this farther information, not novel, will, doubtless, be pleasing to those not previously possessed of it. Smith has also noted that "These berries afford a kind of sauce to the poor in Sweden and the south of France. Haller speaks of them as ill-flavoured. Rousseau gives an account of the singular politeness of a young Frenchman, the companion of his walks, who, seeing him gather and eat this fruit, did not presume to warn him of its being

reputed poisonous." (Smith, in *E. F.*, iv. 238.) In the *Encyc. of Plants*, it is stated that *H. rhamnoides* is very prolific in berries; which are yellow when ripe, succulent, smooth, and gratefully acid to the taste. They are much eaten by the Tartars; and the fishermen of the Gulf of Bothnia prepare a rob from them which imparts a grateful flavour to fresh fish."

The introducing an equal proportion of the plants of each sex, where those of one only may have been introduced, or where it may be proposed to introduce *H. rhamnoides*, will increase variety, botanical interest, ornament in winter and early spring from the fruit of the female, additional to that from the grouped flower-buds of the male, and, if the sexes be planted contiguous, fruit for use, and perfect seeds for the production of plants.

The following facts appertain to *H. rhamnoides*, without relation to its sexes; consequently, they are not in place here: but the inserting them here may place them under cognisance for associating usefully with *H. rhamnoides* in its general relations: to the lovers of insects they will be interesting. — *H. rhamnoides* grows in profusion all along the course of the Arve; and *Deiléphila* (*Sphinx*) *hippóphaes* is now so plentiful in consequence of the numbers of it collected and bred by the peasants, that a specimen costs but 3 francs: specimens were formerly sold at 60 francs each; and one of the first discovered specimens was sold for 200 francs. (*W. Spence, the distinguished Entomologist, in a Communication in Mag. Nat. Hist.*, iv. 148., dated Geneva, Aug. 27. 1830.)

Of two plants of *H. rhamnoides*, male, in the arboretum of the London Horticultural Society, one has, Mr. Gordon noticed to me in April, 1835, its flower-buds smaller, and these earlier in blossom, than those of the other.

H. rhamnoides angustifolia. This name is published in Messrs. Loddiges's *Catalogue*, ed. 1830. A plant labeled with this name was, on April 28. 1835, bearing fruit in their arboretum; though a much smaller quantity of it than *H. rhamnoides*, female, to which it stood near. Its bearing fruit proves it to be of the female sex. Its leaves are notably narrow. Its fruit is spoken of in the preceding page.

H. sibirica. This name is in Messrs. Loddiges's *Catalogue*, ed. 1830; and a plant of it was growing in their arboretum in April 28. 1835. The plant was dwarf and feeble, and not flowering.

"*H. conferta*, Nipal." A plant thus named, in the arboretum of the London Horticultural Society, is not flowering in April, 1835: hence the sex of this plant cannot be here noted. Dr. Wallich is the author of the name, in 1824, in his herbarium, since presented, by the East India Company, to the Linnæan Society. In this herbarium are two sets of specimens: one set of plants ranging from Himalaya to Gossan Than; the other, plants inhabiting the interval of Himalaya and Kamoon. These last have the name Robert Blinkworth appended to this locality. Both sets are labeled *H. fasciculata*, and dated 1821. This name Dr. Wallich superseded, in 1824, by that of *conferta*: *fasciculata* and *conferta* have, it is probable, each been intended to signify the little groups into which the male flowers are disposed. In each set of specimens, there are the two sexes. Mr. D. Don thinks it likely that *H. conferta* Wall., and *H. salicifolia* D. Don (in his *Prodromus Floræ Nepalensis*), may be identical. — The fruit "of *Elæagnus arborea* and *conferta* is eaten in Nipal." (*Lindley's Introd. to Nat. Syst. of Bot.*, p. 68.) Is it possible that *H. conferta* is intended by the latter of these?

H. salicifolia D. Don, in his *Prodromus Floræ Nepalensis*. If *H. conferta* and *H. salicifolia* prove identical, *H. salicifolia* is, I suppose, the name priorly published, and, consequently, the one to be adopted, in accordance with the laws of botanists. In the arboretum of Messrs. Loddiges is a shrub labeled *H. salicifolia*: not in flower on April 28. 1835. Loudon's *Hortus Britannicus* and Sweet's *Hortus Britannicus* show that *H. salicifolia* had not flowered in Britain, to the knowledge of the authors of these works, at the time each registered these species. Mr. Sweet has dated the introduction of *H. salicifolia* into Britain in 1818; Mr. G. Don, in Loudon's *Hortus Britannicus*, in

1822. Mr. D. Don has an impression that the first plants of this species in Britain were raised here from imported seeds: if so, a plant or plants of each of the sexes might have arisen from these seeds, and be still in Britain somewhere, although they have not yet flowered to be distinguishable.

Shepherdia canadensis (13878.).

It is stated in the *Encyc. of Plants*, in Sweet's *Hort. Brit.*, and in Loudon's *Hort. Brit.*, that this species flowers, or at least has flowered, in Britain in April and May. However rarely or usually it may do this, not any one has, it seems, published a figure of it in its flowering state. As it was a feature in *Encyc. of Plants* to give a figure of at least one species in every genus, and as *S. canadensis* is the only species therein registered, a figure of it (*fig.* 13878.) has been given; but this figure does not exhibit the flowering, or the flower or flowers, of the species.

The male sex. Are the plants of *S. canadensis* that are in Britain of this sex?

The female sex. Are the plants of *S. canadensis* in Britain of this sex?

Are plants of both sexes of *S. canadensis* in Britain?

S. argentea.

Mr. Sweet had not known this species to flower in Britain: see his *Hort. Brit.*, 1830, p. 451. Mr. G. Don has given, in Loudon's *Hort. Brit.*, its time of flowering in Britain, April and May. J. B. Russell, Boston, America, has communicated, in a notice on this species, in *Gard. Mag.*, vii. 570, 571., that "It is one of our [N. Americans'] earliest flowering trees, being covered with blossoms in March."

The male sex. Is a plant of this in Britain? Has this sex ever flowered in Britain? (*Quoted Information on the Flowers of this Sex.*) "Male flowers in a catkin, octandrous." (*Encyc. of Plants*, p. 817.) In this work, *S. argentea* is not registered, *S. canadensis* only; but as the character is generic, it is, if the author had, when he framed it, known of *S. argentea*, as applicable to this as to that. On *S. argentea*, detailed characters are quoted from Nuttall, in *Gard. Mag.*, vii. 571. Two of these are, "Flowers small, laterally aggregated:" these are probably only applicable to the flowers of the male sex; and, farther, "Male flowers divided to the base, segments sub-ovate, obtuse; filaments eight, very short; anthers oblong, two-celled." (*Nuttall*, as gathered from a quotation by J. B. Russell, in *Gard. Mag.*, vii. 571.)

The female sex. Is a plant of this in Britain? Has this sex been known to flower in Britain? (*Quoted Information on the Flowers of this Sex.*) "Female [flowers] racemose at the ends of the branches. . . . Fruit of *Hippophae*." (*Encyc. of Plants*, p. 817.) This is subject to the remark made under the quotation from the *Encyc.* under the male sex. "Female flowers smaller [than the male ones], shortly pedunculate, with eight glands; no vestiges of stamina. Style one. Stigma thick and oblique. Germ inferior. Berries small, and collected into clusters, red [In another portion of the quoted matter, they are called scarlet], and succulent [In another part of the quoted matter they are stated to be diaphanous]; sparingly scattered with scales, always more or less acid [In another part of the quoted matter, stated to be pleasantly acid]. Seeds subovate and shining, much like that of *Hippophae*." (*Nuttall*, as quoted by J. B. Russell, in *Gard. Mag.*, vii. 571.) Mr. Russell has himself communicated on its fruit as follows:—"Its fruit is about the size of the red Antwerp currant, much richer to the taste, and forms one continued cluster on every branch and twig. We consider it one of the greatest acquisitions of the fruit-bearing kind that has recently been brought into notice in our country. . . . The Messrs. Winships, nurserymen, at Brighton, near Boston, I believe, are the only persons who have this tree under cultivation, at least to any great extent. Their standard tree is about 14 ft. high, and is eight years old from the seed."

H. argentea. Mr. Russell has noted, in *Gard. Mag.*, these names for it as being in use in North America:—"The Missouri silver leaf or buffalo-berry tree. It is also called by the Indians rabbit-berry, and the beef-suet tree. The

French traders call it *graise de buffle*, or buffalo fat." A citation of the localities which it inhabits wild may be not useless to the British cultivator. "Indigenous on the banks of the Missouri and the lesser streams, from the confluence of the river Platte to the sources of the Missouri." (*Nuttall*, as quoted in *Gard. Mag.*, by J. B. Russell; who has added, "grows spontaneously in the extensive plains on the banks of the Missouri.")

Santalacææ.

Osyris alba. In *The Encyc. of Plants*, in Sweet's *Hort. Brit.*, in Loudon's *Hort. Brit.*, it is noted of this that it had not flowered in Britain up to the time of registering the species in those works. Has it ever flowered in Britain? Are both sexes of it in Britain? If but one, which? In Nees ab Esenbeck's *Genera Floræ Germanicæ Iconibus et Descriptionibus illustrata*, details of the structure of the parts of fructification of each sex are exhibited and explained: hence the plant flowers and grows wild in Germany.

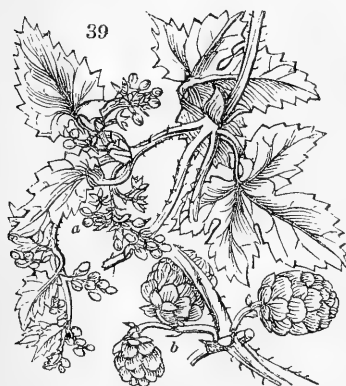
Urticacææ (Nees, the name).

Cannabis sativa. The cultivated hemp-plant. This species supplies an obvious and popularly known example of diœciousness in plants. Are not the male plants usually feebler than the female ones? and do not they wither earlier? What proportion in number do the plants of the one sex bear to the plants of the other? A person familiar with the culture of crops of the hemp-plant would readily answer these questions. I have, I think, read, long since, somewhere, that a female plant of hemp which had stood remote from all other hemp-plants had yet borne seeds that had proved capable of germinating, and that this had been referred to the fact that here and there a stamen had been observed to be present among the female flowers. The result of renewed observation on a point like this would be useful.

Since I wrote the preceding, I have met with the following information quoted into the *Encycl. of Plants* out of the *Encycl. of Agriculture*:—

"The male plant decaying long before the female, the former requires to be pulled up as soon as the setting of the seed in the females shows that they have effected their purpose. Hemp is sown on well prepared loamy soil about the end of April; the male plants are generally pulled about the beginning of July, and the females four or five weeks after them, when they have ripened their seeds." (*Encycl. of Agr.*, § 5327.)

Humulus Lupulus. The hop-plant. (*fig. 39, 40.*) There is a striking difference in the inflorescence of the two sexes in this species. (*fig. 39, 40.*) The



female flowers are borne in a short closely imbricated catkin, and this is developed in the progress to maturity into the cone-shape body (*39. b, 40. b*), the aggregate of which constitutes the "hops" of commerce. The male flowers (*39. a, 40. a*) are borne "in compound axillary panicles" (Smith). A plant of the female hop can be obtained from the proprietor of any hop plantation; a plant of the male hop from some wild habitat of hop plants; "the habitats are," Smith has written, "in thickets and hedges, especially where the soil is stiff and rather moist." In a habitat of this character I once found male plants flowering on Sept. 26.; Smith has given July," so that in the interval of these times there

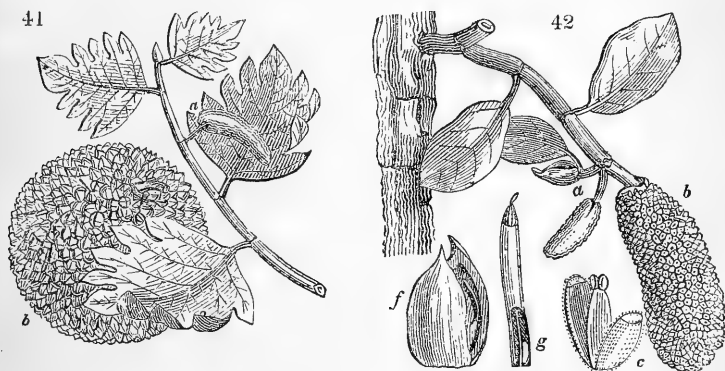
is hope of the collector of diœcious plants being able to identify a plant of the male hop, and secure it for himself. I have once heard it remarked that the degree of bitterness in the pollen of the male hop is very much greater than the degree of bitterness in the cones of the female, and that, could the pollen

be collected in sufficient quantity for use in making beer, it might be found to supersede the use of the more bulky cones. We hope those who may favour these remarks with a reading will take this notion at their own estimation. If it here but serve the purpose to place pollen and cones in contrast, as to the sex by which each is produced, the expression of it here will not be wholly out of place. Smith, in his generic character of *Humulus*, in *Eng. Flora*, iv. 240., describes that the anther opens by two terminal pores; this little point in structure we notice that the student may notice it too. Has any person ever noticed the flower of one sex of the hop upon a plant mainly of the other sex? The structure of the flower in each sex is so different from that of the flower of the other, that to find the two flowers upon one plant would be a most remarkable fact in physiology.

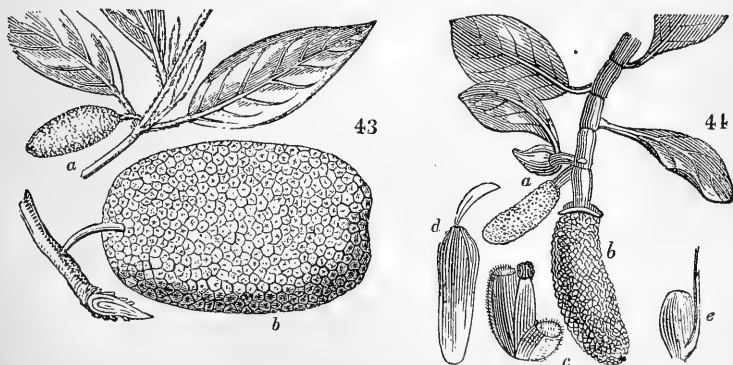
Urtica dioica L. The diœcious-sexed nettle, or great perennial nettle, so common almost everywhere. The contrast in the appearance of the flowers of the two sexes in this species is not conspicuous; but it will prove obvious to a steady look. Smith has stated it to be not diœcious without exception, in the words, "flowers on one root [plant] chiefly barren, on another mostly fertile."—*Eng. Flora*, iv. 135. This is quite true, I think I may say, from experience.

Urticæ § *Artocárpeæ* of some; *Artocárpeæ* of others.

Maclura aurantiaca, *Broussonétia papyrifera*, and *Ficus carica* are to be spoken of under this order. The figure of a section of the fruit of *Maclura* to be presented (fig. 47.), and a figure of the cut-leaved or true bread-fruit



tree (fig. 41.) (*Artocárpus incisa*), and figures of the entire-leaved bread-fruit tree or Jaca tree (figs. 42, 43, 44.), at command, may so far contribute to



render the young botanical reader familiar with the structure of the fructification of the plants of this order, or section of an order, as to justify my stepping a little aside from my main purpose to further this end.

The following extract from *The Penny Cyclopædia* is deemed likely to contribute to it:—"Artocarpææ (or the bread-fruit tribe), a natural order of plants nearly related to Urticææ (the nettle tribe), from which it is so difficult to separate it by any precise character, that there are many who consider them nothing more than a section of Urticææ. This opinion has been adopted by Dr. Lindley in his *Nixus Plantarum*.

"Whether a distinct order, or a section only of Urticææ, the group of Artocarpææ is known by its having flowers with a very imperfectly [a term used to signify the degree of manifestness or developement as compared with calyxes more manifest and developed borne by many plants in other orders] formed calyx, no corolla, leaves with conspicuous stipules, a rough foliage [*Maclura aurantiaca* has smooth leaves without stipules, *Nuttall*. Yet, in the account of *M. aurantiaca*, in Lambert's *Appendix to the Monograph on the Genus Pinus*, the stipules are stated to be two, and ciliate], and an acrid milky juice, which often contains caoutchouc in abundance. The flowers are collected into round heads, and the ovules are suspended singly from the upper part of the solitary cavity of the ovarium. They are thus distinguished from true Urticææ by the position of their ovules [in Urticææ the ovule is erect], the manner in which their flowers are arranged, and by their yielding a milky juice: the juice of Urticææ is watery." (*The Penny Cyclopædia*, No. 119.; worth any young gardener's purchasing, if for the sake of the treatise on Artocarpææ alone.)

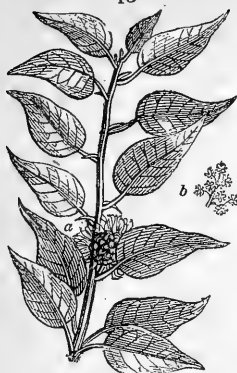
The artocarpuses have not their sexes diœcious, but monœcious; and in *figs.* 41, 42, 43, and 44. *a* indicates the inflorescence of the male sex; *b*, the inflorescence of the female sex; or, it would almost seem, in *figs.* 41, 42, and 43., the commencement of its fruiting. *c*, in *fig.* 72. and *fig.* 44., indicates the male flower with its one stamen and the two sepals of its calyx; *d*, in *fig.* 44., points out the female, consisting of a calyx enclosing the pistil within except the simple club-shaped curved stigma which proceeds from the style within through an orifice in the summit of the calyx; *e*, in *fig.* 44., distinguishes the ovarium or germen and part of the style; *f*, in *fig.* 42., marks the ripe fruit surrounded by the enlarged soft fleshy calyx, cut open to show the fruit within; the ovarium already beginning to burst to show the seed within; *g*, one of the abortive female flowers partly cut away at its base to show the ovarium and style within. *Fig.* 42. has been, and *fig.* 44. seems also to have been, copied from t. 2833, 2834. of Curtis's *Bot. Mag.*, published July, 1828; whence some interesting particulars on the plant have been quoted into this Magazine, IV. 369, 370., and a brief notice into the *Mag. Nat. Hist.*, i. 274. The late Rev. L. Guilding, an enthusiastic and distinguished naturalist, in a series of notes on subjects contained in the first and second volumes of the latter work, has these, not hitherto published, on the *Artocarpus integrifolia*:—"The reduced figures of the jack tree given by Dr. Hooker [in Curtis's *Bot. Mag.*] were taken from my drawings made from the living plants, and occupying three folio sheets. They give but a poor idea of this most ponderous of the gifts of Pomona. The fruit, when ripe, is swollen to an elongate, prickly, deformed mass, generally bursting from its weight, which is from 50 lb. to 80 lb.: it hangs on the main branches and trunk, which are alone able to support so bulky a production. A tree thus loaded (unnaturally, as it seems) forms a striking feature in the scenery of India. [*L. Guilding. St. Vincent, May 1. 1830.*]

Maclura aurantiaca. (*figs.* 45, 46, and 47.)

Botanists have not concurred in deeming the sexes of the *Maclura aurantiaca* diœcious, as the following citation will show:—

Maclura aurantiaca, Diœcia Tetrândria, *Nuttall*, the first describer and namer of this plant, both in its genus and species, in his *Genera, &c., of North American Plants*, ii. 233., 1818. The essence of his account is translated into

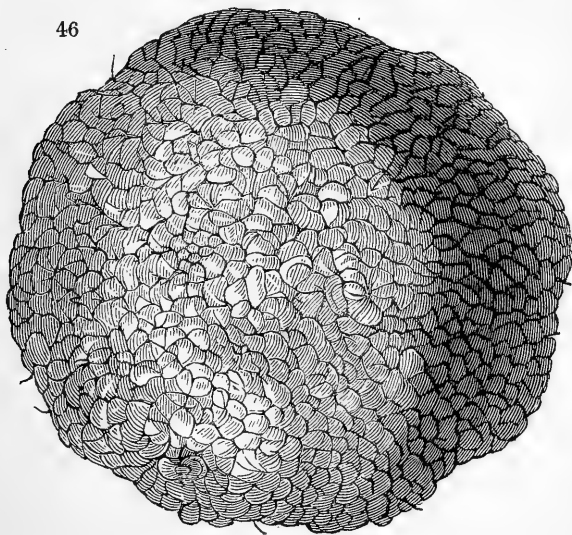
45



the *Dictionnaire Classique d'Histoire Naturelle*, Juin, 1826, where it is referred to *Dicœcia Triándria*. Reason is not given for the change in the order, which may have been unintended. Described to be diœcious and tetrandrous in the *Appendix* to Lambert's *Monograph on the Genus Pinus*, in ii. 1828. p. 32*. The account in *Gard. Mag.*, i. 356, 357., has been taken from this *Appendix*. "*Dicœcia Tetrándria N.*" (Sweet, in his *Hort. Brit.*, end of 1830.) The N. implies, Nuttall is the authority. It is spoken of as diœcious-sexed in *Gard. Mag.*, ii. 350., vi. 483. and note *; and Messrs. Prince, nurserymen, New York, offer, in their catalogue for 1832, plants of the female at seventy-five cents (three quarters of a dollar) each; and plants of the male at a dollar each.

Maclura aurantiaca, *Monœcia Tetrándria*, *Lindley*, in Loudon's *Encyc. of Plants*, 1829, p. 769. and 784.; *Monœcia*, *Lindley*, in his *Introduction to the Natural System of Botany*, 1830, implied in the defining (p. 95.) of *Artocárpeæ* as having their "flowers

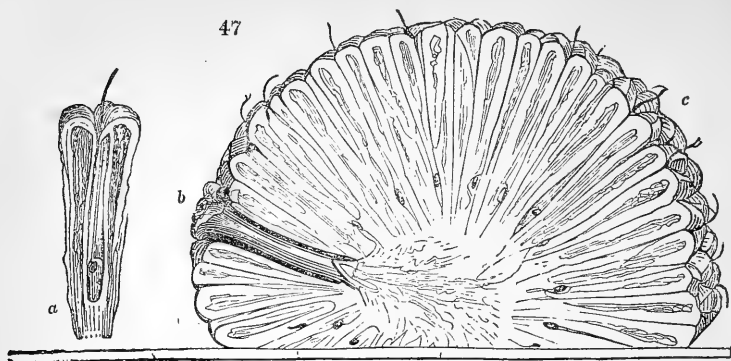
46



monœcious;" and in citing (p. 95, 96.) of *Maclura* as an example. *Monœcia Tetrándria*, *G. Don*, in Loudon's *Hort. Brit.*, 1830, p. 380.

The following considerations are adducible, without violence, in relation to the question,—Are the sexes of *Maclura aurantiaca* diœcious or monœcious? Of three fruits sent to the Conductor by Dr. Mease of Philadelphia, noticed in VI. 103. 483., X. 61., it is stated of those noticed in VI. 103., X. 61., that they had been produced in the nursery of Mrs. M'Mahon, near Philadelphia. It is probable that that mentioned in VI. 483. had been produced therein also; but this is not stated. Now, in the notices of two instances of fruit out of this nursery not any mention of a male tree or plant growing there is made; which it is rather likely that Dr. Mease would have made had the case been so. Of the third fruit sent, noticed in X. 61., and there stated to be out of the said nursery, the Conductor, in the page cited,

47



has noticed distributing seeds: if any of those seeds have germinated, and produced a plant, no matter whether this has subsequently died or not, there is, if we admit Dr. Mease's silence on the existence of a male *Maclura aurantiaca* in this nursery as a proof that one does not exist therein, ground of assumption that *M. aurantiaca* has its sexes monœcious. Has one of the seeds distributed germinated? Answers to this question would be useful information. Of the fruit out of which they had been taken a good portion remains here dried: it abounds in nuts, most of which contain, it appears, plump semblances of seeds; of the nuts, it is intended to sow some: still, if perfect, they are now less likely to grow than those sent to persons in Feb. 1834 (X. 61.) would be, if they were sown when received.

"The Flowers [of *Maclura aurantiaca*] are very inconspicuous, and nearly green, or with a slight tinge of yellow." (Nuttall, in his letter to Lambert, quoted in *Gard. Mag.*, i. 357.) This remark is placed previous to speaking of the sexes separately, in detail, from inability to discover whether the remark is meant to apply to either of the sexes separately, or to both. As now placed, it is supposed to be applicable to both.

That *M. aurantiaca* has its sexes diœcious, there is negative evidence, additional to that of the majority of witnesses on that side already cited. This additional evidence will be more fitly adduced in treating of

The male sex of the *M. aurantiaca*. — Nuttall, in his *Genera of N. A. Plants*, ii. 234., has noted "male flowers unknown," yet has arranged the species in Diœcia Tetrândria. The date of his work is 1818. In 1824, he supplied additional information on this point, in a letter to A. B. Lambert, Esq., dated Liverpool, April 12. 1824. This letter has been published in the *Appendix* to Lambert's *Monograph on the Genus Pinus*, vol. ii. 1828, p. 33*, 34*, and copied in this Magazine l. 357. So much of it as relates to the male sex, and that which will apply to the question of the diœciousness of the sexes of *M. aurantiaca* is here introduced: — "I have herewith sent you the drawings of the *Maclura*, and have but little to add to what is already before the public [in his *Genera of N. A. Plants*, consequently we had not to correct his previous reference of it to the class Diœcia.]. I have, however, since that publication, seen the male flowers [represented on a diminished scale in *fig. 45. b*], with which I had been unacquainted. They are produced in partly sessile clusters, probably twelve or more together in a very short raceme, and consist each of a four-parted greenish calyx, including three, but more commonly four, stamens, about the length of, or a little exceeding, the calyx." Not any corolla. Had these male flowers been produced upon a tree common to them and to the flowers of the other sex, this author would scarcely omit to mention such a fact, and correctively to his former account.

The female sex. — Its inflorescence is a globose head of flowers (*a* in *fig. 45.*), that is seated upon a short peduncle (shown in *a* of *fig. 45.*, and at

b in *fig. 47.*), which is situated in the axil of a leaf. Each flower consists of a pitcher-shaped calyx, which includes an ovary, and has, connected with this, a thread-shaped and downy style that is extended beyond the top of the calyx to the length of nearly an inch, as may be learned from Nuttall and Lambert. Not any corolla. In *fig. 47.*, *a* and *c*, portions of the style which had remained in some of the flowers until the fruit was progressing to perfection, are shown. In these two figures, also, the situation of the nuts into which the ovariums have at length been rendered, is shown. In a dried portion of a fruit now present, that was, when undried, 3 in. in diameter, a central roundish axis, about half an inch across in its narrowest diameter, more in its broadest, is obvious, upon which the individual fruits or calyxes are arranged: this axis is not rendered obvious in *b* of *fig. 47.* The nuts are not situate at the base of the calyx, but at some little distance up their length; each nut is about three eighths of an inch long, and half this broad, compressed, oval, with blunt ends, and a notch in the uppermost of them. The calyxes in the fruit have their tips consisting of seemingly four tumid lobes unequal in size: these, and some difference in the height or length of the calyxes or individual fruits, gives the surface of the entire fruit (*fig. 46.*) its tubercular appearance.

The dried portion of a fruit, now present, has, when smelled to, precisely the scent of honeycomb, but in a fainter degree.

The Size, Figure, Colour, Juiciness, and Use of the Fruit. — Dr. Mease, of Philadelphia, has sent to the Conductor, at three different times, three several fruits of the *Maclura aurantiaca*, as noted in VI. 103., 483; X. 61. Of the first sent, noticed in VI. 103., the Conductor has there observed, "We have had a drawing and section of it made, of the full size, by Mr. Sowerby." The figure of the section is presented in the same place, but not the figure of the drawing mentioned; implying, doubtless, the entire fruit. *Fig. 46.*, in the present notice, represents an entire fruit; and as this figure has been lying by, it is doubtless the figure then prepared, so that it (*fig. 46.*), and the figure of the section (*fig. 47.*), repeated here from VI. 103., now present a fuller representation of the first fruit sent by Dr. Mease: *a* in *fig. 47.* is, perhaps, slightly magnified. On this fruit Dr. Mease has communicated (VI. 103.) that "It weighed 15 oz. when pulled: but it is not ripe;" and the Conductor has added, "It measures 9 in. round one way, and $9\frac{1}{4}$ in. the other. The colour is a greenish yellow; the taste acid, it not being half ripe." On the second fruit, noted in VI. 483., as received from Dr. Mease, not any particulars are stated. On the third, which the Conductor has noticed (X. 61.) receiving, he has noticed, "It is about the size of a large orange . . . though evidently gathered before it was fully ripe . . ." Its diameter was 3 in.; a dried portion now (May, 1835) remaining has shrunk to 2 in. "The *Maclura* is conspicuous by showy fruit, in size and external appearance resembling the largest oranges." — *James's Expedition to the Rocky Mountains*, as quoted in *Gard. Mag.* I. 357. *M. aurantiaca* "inhabits deep and fertile soils in valleys. The Arkansa appears to be the northern limit of the range of the *Maclura*, and neither on that river, nor on the Canadian, does the tree or the fruit attain so considerable a size as in warmer latitudes. In many specimens of the fruit examined by Major Long, at the time of his visit to Red River, in 1817, several were found measuring $5\frac{1}{2}$ in. in diameter." — *Id. and Ibid.* Nuttall has remarked, "I cannot learn that any individual has ever seen its ripe fruit. These [the unripe fruit Nuttall must have now meant, because, if he had meant ripe fruit, then some one had seen and tasted it], according to the report of Major Long (see his *Narrative*, ii. 158.) are quite as large as those of the shaddock tree, yellow, and very beautiful to the eye, but, in his opinion, always unpleasant to the taste." — *Nuttall in Lambert's Appen.*, and quoted in *Gard. Mag.* I. 357. The fruit is not esculent. — *Rafinesque*, in *Gard. Mag.* viii. 247. I never knew the fruit to be used as an article of food. — *A. H. Sevier*, delegate in the Congress of the United States from the territory of Arkansas, where the *Maclura aurantiaca* abounds. In a communication from

Dr. Mease in *Gard. Mag.* vii. 508, "The milky juice, of which three fruits will yield a pint." — *Gard. Mag.* iv. 261. The proportion of this quantity exceeds that of the quantity obtained from unripe fruits by Nuttall, who has, on this subject, noticed as follows: — "The bark and fruit, on incision, give out a milky sap; that of the [unripe, see *Gard. Mag.* i. 357.] fruit is aromatic, but not agreeable to the taste. . . . From two or three of the unripe fruit which I described as seen growing in Mr. Choteau's garden, at St. Louis, in 1810, I expressed about half a pint of a milky sweetish fluid, which, unlike most lactescent saps, quickly separated into a clear liquid, and a subsiding feculent matter, almost appearing like the action of coagulation in milk. — *Nuttall in Lambert's App.*, and quoted in *Gard. Mag.* i. 357.

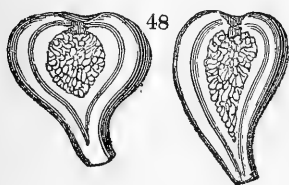
Will the Fruit of Maclura aurantiaca be produced in Britain? Mr. W. Prince has stated, *Gard. Mag.* ii. 350., that "the female . . . has been sent to Europe in abundance," and Britain has received its proportion; hence plants of the fruit-bearing sex are likely to be extant here. The opinion of one of the Messrs. Loddiges, cited in II. 486., is, that "It is more than probable that it [*M. aurantiaca*] will never fruit in this country." "I see no reason why this tree should not bear the open air in England; but I presume a green-house would be necessary to bring the fruit to maturity." Dr. Mease of Philadelphia, in *Gard. Mag.* vi. 103. "The fruit does ripen in this State [Pennsylvania]." Dr. Mease in VI. 483.

Maclura aurantiaca has, it has been stated, borne flowers in France. In *Le Bon Jardinier*, 1833, p. 919., it is stated that "Maculure épineux, *Maclura aurantiaca* Nutt., *Broussonetia tinctoria* Kunth, de l'Inde et de l'Amérique," has flowered for the first time in France in July 1832, in the flower-garden of the Luxembourg at Paris, and in the King's garden at Neuilly. Whether diœcious, and of which sex, or monœcious, is not stated. The synonym, cited from Kunth, is, in Loudon's *Hort. Brit.* 1830, and Sweet's *Hort. Brit.* 1830, referred to *Maclura tinctoria* D. Don, not to *M. aurantiaca* Nuttall; hence, it seems cited wrongly in *Le Bon Jardinier*, where the account of *M. aurantiaca* may be quite correct in other respects.

The notices on *Maclura aurantiaca*, which have been published in the *Gardener's Magazine*, are in I. 229., 356, 357.; II. 350. 486.; IV. 261.; VI. 103, 104. 483; VII. 508.; X. 61.; XI. 312—316.

Ficus Carica. (fig. 48.)

"A bread-fruit [fig. 41. in p. 311.] is a fig. turned inside out, and much larger in all its parts; that is to say, the flowers which form the bread-fruit



and fig grow, in both cases, upon a fleshy receptacle; but in the former the receptacle is solid, and bears its flowers externally; while in the latter it is hollow, and bears its flowers internally." *The Penny Cyclopædia*, No. 119., subject *Artocarpus*.

The male sex.—This is not present in the cultivated fig. Nees ab Esenbeck, in his *Gen. Floræ Germ. illustrata*, genus *Ficus*. Yet his generic character states that flowers of each sex occur in one fig, but he may imply upon wild plants only; and that of those the male flowers occupy the upper part of the fig; the female flowers the remaining part. In structure the male flowers have a three-parted membranous calyx, three stamens inserted by hair-like filaments into its base; two-celled anthers affixed by the back; and globular pollen. Nees.

The female sex.—The flowers of this have a five-cleft calyx, whose substance is continued downward, and clothes the pedicel of the flower. Ovary one-celled, one-seeded. Style thread-shaped, attached on one side of the ovary. Stigmas two awl-shaped. Nees.

From the remark of Nees, quoted above under the male sex, it would seem that the flowers in the cultivated varieties of the fig, are all of the female

sex; this seems to disagree with Monck's views, quoted in abstract, in *Encyc. of Gardening*, new ed., § 5302., from the *Hort. Trans.* V. 168, 169.

Broussonétia papyrifera.

A plant of each sex of this species is in the arboretum of the London Horticultural Society; and another plant of each sex of it in the arboretum of Messrs. Loddiges, Hackney; as denoted by labels standing prefixed to plants in these places in April 1835.

Broussonétia papyrifera has "large-lobed leaves, variously shaped; the foliage of the male and female plant differing so much from each other, that they might easily be mistaken for distinct species." *Encyc. of Plants*, p. 832. Fig. 13880. in p. 306. of this present Number, represents leaves of one of the sexes.

The male sex.—Flowers disposed in "a cylindrical catkin. Calyx 4-parted." *Encyc. of Plants*, 817.

The female sex.—Flowers disposed in "a globose catkin, Calyx tubular, 3—4 toothed. . . . The fruit is little larger than peas, surrounded with long purple hairs, when ripe changing to a black purple colour, and full of sweet juice." *Encyc. of Plants*. Watson has noticed, in his *Dendrologia Britannica*, that this species flowers and fruits in Britain. In *Le Bon Jardinier*, 1833, it is remarked (p. 918, 919.), that one of the modes in which *Broussonétia papyrifera* may be cultivated is by seeds, and that, to have the seeds efficient, a male plant must grow near the female.

B. cucullata *Hort.* is of the male sex,—a fact in the history of it. In *Le Bon Jardinier*, 1833, it is stated, in p. 919., that *B. cucullata* *Hort.* was found (upon a small plant of *Broussonétia papyrifera* seems implied), and secured in cultivation by grafting, by M. Camuset, one of the gardeners in the King's garden; farther, it is stated that it is very curious in its leaves hollowed into a hood; that the plant upon which it was found was a male, and that the flowers which *B. cucullata* has produced are, consequently, male. It is added, that it is already much diffused in the trade. Is not this *B. cucullata* *Hort.* identical with the *B. spatulata* *Hort.* of *Encyc. of Plants*, p. 832., and Loudon's *Hort. Brit.*, p. 397.? If it be, and the account in *Le Bon Jardinier*, be correct, one name will be sufficient for denoting the kind, and this kind must forthwith be deemed a variety. It is remarkable that this most distinct-looking plant is omitted from Sweet's *Hort. Brit.*, 1830.

In No. 119. of *The Penny Cyclopædia*, before commended, is a defence to popular readers of the popular charge against botanists of their expressed opinion, that the nettle and the fig are close akin. The essence of the defence is as follows:—"In structure of stem, leaves, stipules, calyx, stamens, and fruit, these two plants are so alike, that it is impossible to discover more than one solitary essential character; namely, that of the position of the young seeds, by which they can be distinguished." As to the herbaceous condition of the nettle, and the ligneous condition of the fig, there are species of nettle, not a few, which are ligneous. Were it otherwise, a ligneous plant is nothing but a herb, that continues to grow many years; and longevity does not interfere in any degree with relationship. As to the extremes of structural difference in the mode in which the flowers of the nettle and the fig are arranged, "intermediate forms of arrangement occur which reduce these differences to nothing." In the Roman nettle (*Urtica pilulifera*) the female flowers are collected into round heads. In the genus *Prœcis*, which is closely related to the nettles, the flowers are also collected into heads, and, in addition, the part which bears the flower is pulpy. Here is one step towards an assimilation in form to the receptacle of a fig. In the genus *Dorstenia*, the flowers are borne in a fleshy saucer-shaped receptacle, whose edges are curved inward. Were these edges curved inward till they met and coalesced, the similarity between this receptacle and that of the flowers of the fig would be close, &c.

Lorántheæ.

Viscum album. This is stated to flower in May. The female-flowered plants may be ascertained in autumn and winter by their bearing berries, out

of which seeds may be obtained to elucidate any of the following points. The seed has "sometimes a double embryo." (Smith, in *Eng. Flora*, iv. 236.) Mr. Baxter, curator of the Oxford Botanic Garden, has shown, in his *Illustrations of the Genera of British Flowering Plants*, t. 40., the manner in which the germinating embryo protrudes its radicles, and apposes them to the face of the bark of the tree to which the seed has been affixed; and has remarked thus: — "Out of nine seeds which I rubbed on the smooth bark of an apple tree in the botanic garden, this spring (1833), and left there to germinate, two produced only one radicle each; six produced two radicles each; and one produced three. It appears, from this experiment, that two is the most common number of radicles produced by each seed of this curious plant." I have to add to this a fact, as I believe it to be, which seems so strange that I have feared my observing incorrectly; yet I could not: — a seed sown on the bark of a plant of hawthorn protruded two just such radicles as Mr. Baxter has figured, but, perhaps, longer: after a time, these parted at the point in which they had met in the seed; each became erect in a degree, and each a separate plant. Hence, may not the one case with me, and the six cases, in which two radicles were protruded from each seed, with Mr. Baxter, have been instances of two embryos in each seed; and the case with Mr. Baxter, in which three radicles were protruded, a case of three embryos in the seed? It would gratify curiosity to learn whether or not, in the cases in which two plants are produced from the two embryos in one seed, both are of the same sex. The two plants from the one seed of which I have spoken, both became established; and I have asked a statement of their sex or sexes, but have not received it. It is worthy of remark that Mr. Baxter has shown that the tips of the radicles, where apposed to the tree's bark, are so much thick-

49



ened as to be quite tubers: they were exactly similar in that instance which I witnessed. This case is sufficiently similar to that of the parasitic *Lathræa Squamaria* as to render the similarity quite worthy notice. *Fig. 49.* represents a section of a tuber of the *Lathræa Squamaria*, with its point intruded into the root of the shrub. *Lathræa Squamaria* is a plant mainly subterraneous, which subsists parasitically upon the roots of shrubs. Those of its fibres which have union with the shrub, have tubers at the point of juncture of the size of a small pin's head. *Fig. 49.* represents a section of one of these magnified. The structure and economy of the

Lathræa Squamaria has been illustrated by J. E. Bowman, Esq., whose researches and discoveries are published in *Lin. Trans.*, xvi.: an abstract of them is given in *Mag. Nat. Hist.*, v. 45—48.

(To be continued.)

MISCELLANEOUS INTELLIGENCE.

ART. I. General Notices.

METALLIC Wire for Tying up Trees, attaching Labels, and other Garden Purposes. — We noticed, p. 265., that leaden wire had been used in France for tying up trees; and a number of specimens have since been sent us by Mr. W. A. Rowland, plumber and glazier, of Chester, who manufactures it. Mr. Rowland informs us, that his wire is composed of an alloy of lead, and another

metal, in consequence of which it is much stronger than lead wire alone. Thus, a foot in length of No. 14 lead wire will carry 14 lbs. and be broken by 15 lbs.; while No. 14 metallic wire will carry 20 lbs. a foot, while 21 lbs. will break it. This shows the latter to be 5 lbs. stronger than the lead wire. Mr. Rowland adds, that wire formed of lead alone does not draw kindly, and can only be produced in short lengths, while that with the alloys which he puts to it can be drawn into lengths of 40 yards or upwards. The advantages of this wire for garden purposes promises to be, its softness, pliability, and durability. For all these properties it has greatly the advantage of copper or brass wire, which is tough, rigid, and very apt to cut, and otherwise injure the bark of plants tied with it. Messrs. F. and J. Dickson, of the Chester Nursery, inform us, that they have "used this wire for some time, and found it exceedingly useful in tying up almost all kinds of plants, attaching labels, &c." Where a durable tie is wanted, and one which will not injure the tree, we certainly think that this wire has advantages over every other tie that we have heard of; for attaching labels to specimen trees in a shrubbery or arboretum it seems well adapted, and also for labelling trees which are to be packed and sent to a great distance. For all ordinary garden purposes, however, we should prefer common garden matting, not only on account of the cheapness of the material, but because it requires less labour in the tying. We state this to prevent it from being supposed that we think, because this wire is good for many things, that it is good for every thing. Ideas of this kind are often propagated with regard to useful inventions, but the invariable consequence is an injury both to the inventor and to the public. By endeavouring to prove the suitability of an article for universal application, which is only adapted for being applied partially, we lead to its ceasing to be applied at all. We recommend gardeners and nurserymen to give this wire a fair trial. The price seems to be 6d. for a pound drawn into two yards, and 1s. 6d. for a pound drawn into 60 yards; the latter being the smallest size, and the former the largest.

Prepared Zinc Labels for Plants of different sizes and shapes have been sent to us. They are written upon with an ink of a particular description, which forming a combination with the metal is said to be indelible. The ink is sold at 1s. 6d. a bottle, and the labels at various prices, from 3s. a hundred to 12s.; the latter being for a plate of metal $5\frac{1}{2}$ in. by 3 in. with two holes pierced, for the purpose of nailing it to a wooden shank or rod, or riveting it to one of iron or other metal. These labels certainly promise well. They are cheap, as easy to write upon as paper, and as they are thin and narrow, and pointed at one end for sticking in the ground, they are easily stuck in or taken out, and not likely to injure the roots of plants. They may be ordered through any seedsman. — *Cond.*

Of what the ink is composed that is used for writing upon these labels we are not informed by the gentleman who sent them; but an ink which answers the same purpose is prepared by Mr. Hawkins, of Pancras Vale, Middlesex; and the following composition is mentioned in the *Horticulteur Belge* as the invention of M. Symon, of Brussels, and as resisting the effects of air and rain on zinc:—Reduce equal parts of verdigris and sal-ammoniac to powder; add a fourth part of lampblack, and five parts of water. Mix the composition well in a stone mortar; add the water gradually, and take care to shake the composition before it is used.

Apples are kept nearly till apples come again by H. H—, Esq, in a shed placed against the north end of a barn at — in Sussex. The shed is a span roof, with one end placed against the barn, and the other quite open. The side walls have no openings in them whatever, so that air and light are admitted only at one end. Along the middle of the shed there is a wall as high as the ridge of the roof, and against the wall shelves 3 ft broad are fixed, at the distance of 2 ft. one over the other, from the ground to the top of the wall. The apples are laid on the shelves as they are taken from the trees to

the depth of six inches, without any covering over them, and nothing more is done to them till they are wanted for use. In the spring, if the past winter has been very severe, it is found that a few fruit on the outsides of the shelves are frosted, but that those within are in a good state. On the contrary, should the winter have been very mild, the fruit on the outside are rotten, but those on the inside are fresh and good. Nonpareils, and other apples, preserved in this manner, have been repeatedly exhibited by Mr. H——, at the Horticultural Society's Meetings in May and June. We tasted some on May 5th, this year, and found them excellent. The situation of the shed is open and airy, and to this circumstance Mr. H—— attributes much of his success.

ART. II. Domestic Notices.

ENGLAND.

A GRAND Floricultural Exhibition will be held at the Surrey Zoological Gardens on the 15th and 16th of June next. "Not being able to keep terms with the Metropolitan Society of Florists," Mr. Cross has determined to have a flower show of his own. In order that this may be well worthy of public patronage, Mr. Cross himself gives fifty guineas in gold and silver medals for certain defined objects, such as the best pair of orchideous plants, the best twelve green-house plants, the best nosegay, &c., &c. Besides this, the amount received as entrance money from exhibitors will be awarded, at the discretion of the judges, for any rare and beautiful specimen not named in the list. This last plan we think very judicious; because it will serve to assure every gardener that he will not carry to the exhibition any remarkably fine specimen in vain. We are extremely happy to notice this new instance of the excellent public spirit of Mr. Cross. He deserves every encouragement from the gardening world; and we hope he will receive it. We have already heard of several eminent cultivators who have proffered him their assistance. The gardens being situated in the midst of a dense population, and the queen and other branches of the royal family being patrons, there can be no doubt there will be an immense assemblage on the days of exhibition. We never hear the Surrey Zoological Gardens named without feeling gratified at the humanising influence on the minds of thousands who would probably never have been able to reach the Zoological Gardens in the Regent's Park. The arboretum in the Surrey garden has been enriched with several new specimens. It is in a very thriving state, and does great credit to the gardener, Mr. Watts. Again we wish Mr. Cross every success as an encourager of gardening. — *Cond.*

Mr. Groom's Tulips. — We attended the private view of these beautiful flowers at Mr. Groom's gardens, at Walworth, on May 11., and were very much gratified with the brilliancy of the display. The flowers were, generally speaking, finer than at the exhibition of last year. Among them, we noticed fine specimens of our old favourites, Washington, Polyphemus, Louis XVIII., Brûlante élatante, Pompe de funèbre, &c., with many new ones remarkable either for their form or colour. The whole forms one of those exhibitions which no flower-gardener or amateur should visit London without seeing.

Guernsey. — We are happy to find in the *Guernsey Star* of May 4. that a proposal is made for establishing a botanic garden in that island. The mildness of the climate renders it particularly suitable for such an establishment; and the encouragement which the Guernsey Horticultural Society has met with seems to promise it success. We observe, in the same paper, a Gardening Calendar for May, published under the direction of the Society, and adapted to the climate of the island. We think this an admirable plan for directing and keeping up attention to gardening; and we think it well deserving of imitation in different parts of the country.

The Advantages of Water in the Cultivation of Culinary Vegetables. — You

are aware that the water round my midland allotment is in general within 3 ft. of the surface. To this circumstance, I have no doubt, I am in a great measure indebted for a succession of abundant crops. Where this necessary agent in the growth of vegetables is wanting, or scantily supplied, it appears to me that, in most cases, a copious supply could be procured by well-boring; by which means even soils that are now but little worth might be made to produce abundant crops. In cases where the water did not rise above or near the surface, perhaps a steam-engine on a small scale might occasionally be applied. — *J. Denson, Sen. Waterbeach, near Cambridge, Feb. 25. 1833.*

The market-gardens in the neighbourhood of London, of Paris, and of Edinburgh, that are most productive relatively to the labour and expense bestowed on them, are those where the water lies near the surface; for example, the gardens of the Neats Houses, those of the Marais, and those at the bottom of the North Loch. All the cabbage tribe thrive remarkably well in such situations. The custom of raising water from deep wells, to water the surface of grounds devoted to culinary vegetables, prevails throughout Europe and Asia; and the simplification of the practice by boring, as suggested by Mr. Denson, is doubtless a very great improvement. Boring for water is not half so much practised as it might be, though it is on the increase, both in England and in France. — *Cond.*

Forced Roses. — In the *York Chronicle* for Feb. 26. 1773, it is stated that “forced rose trees were then selling in the seed-shops in St. James’s Street at 16s. each!” Flowers of the same sold for 6d. each, in Covent Garden market, in Feb. 1835.

The Banana (Musa sapientum L.) is now in blossom, with thirty-one fruits, and to be seen at Chilton Hall, Clare, in Suffolk. (*The Bury and Norwich Post*, April 2. 1834.)

The Common Ash Tree of great age, in a decaying state, has had its youth renewed, and become covered with fine foliage at Testwood, near Southampton, the seat of W. Sturges Bourne, Esq., which seems to favour Professor De Candolle’s theory of the perpetuity of vitality in dicotyledonous trees. The branches were cut in close to the trunk, or to the larger branches, and the rest was left to nature. The same plan applied to some old apple trees was not attended with the same good effect. — *W. S. B. December 8. 1834.*

A Colmar Pear Tree, in the kitchen-garden at Houghton Park, near Ampt-hill, Bedfordshire, which was cut down in the winter of 1833, made a shoot from the stool in the summer of 1834, 7 ft. 9 in. long, with laterals 4 ft. 9 in., 4 ft. 11 in., and the very shortest 1 ft. 5 in. — *Humphrey Gibbs. Corner of Half Moon Street, Piccadilly, London, Dec. 31. 1834.*

Growth and Fertility of Scions of Pears grafted in the Neighbourhood of Lancaster. — In March, 1833, Dr. Lingard received from Mr. Saul a scion of the Flemish beauty pear, which has now, March, 1835, eight blossom buds upon it. Five other sorts, grafted at the same time, have respectively three, four, eight, and fifteen blossom buds; no small encouragement to possessors of bad sorts of pear trees to graft them with good sorts.

SCOTLAND.

Return Papers for the Arboretum Britannicum from the Glasgow District, through Mr. Murray; and from the Perth District, through Mr. Gorrie. — We are under the greatest obligations to Mr. Stewart Murray, of the Glasgow Botanic Garden, for the exertions he has made to procure us information respecting the foreign trees and shrubs of his district; and also to Mr. Gorrie, for similar exertions in the Perth district. The energy shown on the occasion by these gentlemen is highly gratifying; and we are also very much obliged to the gardeners and others who have sent the information to Mr. Murray and Mr. Gorrie which they have forwarded to us. At the same time, we cannot help observing that some of the gardeners of the Glasgow district

have shown a degree of dilatoriness and indifference which we hardly expected from our countrymen. Two of the Return Papers have been sent back without the dimensions of a single tree or shrub having been inscribed on them; though we know that, in one of the places, there are a number of remarkably fine trees and shrubs. The excuse given in this case is, that there have been few trees planted there for the last twenty years, &c. The other place contains some very fine oaks; but "the Return Paper was laid aside, and escaped" the gardener's "memory;" and when he found it again, by accident, he considered that there were not any trees or shrubs under his care "that merited particular notice." We cannot help contrasting this with the zeal and activity which we have experienced in England and Ireland, as well as on the Continent, particularly in Germany. There are many fine places in the neighbourhood of Edinburgh, including the Botanic Garden, Dalkeith, Moredun, the Whim, Woodhouselee, Pennycuik, Duddingston, Gogar, Saughton Hall, Craigie Hall, Pinkie, &c., &c., from which we are still expecting information. Should any of the Return Papers we sent have been mislaid, or have miscarried, fresh ones may be obtained from Mr. Lawson, or recourse may be had to the form given in the Number of this Magazine for December last; that is, in Vol. X. p. 582.—*Cond. April 30.*

The Auchenbowie and West Plean Horticultural Society, in their prize list for 1835, offer seven prizes for those cottage gardens which shall be most tastefully laid out and neatly kept during the season. We observe, also, that the greater number of the prizes offered to cottagers are garden implements or instruments, or articles of household furniture; a number, also, are books, and some are plants or seeds. The cottager who gains the greatest number of prizes during the season is to have a wheelbarrow. Besides the prizes to be given from the funds of the Society, a number of individuals have offered articles, stating what they are to be given for, as prizes. There cannot be a more useful mode of disposing of any duplicate books, or prints, or superfluous pieces of furniture, or spare plants, than this.

The Stirling Horticultural Society, in their prospectus for 1835, offer a great number of prizes; and, among others, one for the best collection of dried specimens of British plants. They have an excellent library; and the books are circulated among the members on a plan which insures their prompt return. We have sent to this library, a copy of the first volume of our *Architectural Magazine*, from which the young gardener who has a taste for landscape-gardening and garden-architecture may learn the fundamental principles of design in all the graphic arts.—*Cond.*

ART. III. *Retrospective Criticism.*

THE Management of the Government Plantations in Hampshire.—In your April No., p. 163., my name is introduced as being engaged in the management of the government enclosures. In justice to the proper parties, I beg that you will do me the favour to correct the error. My writing to you was induced by the pleasure I have often felt at the many successful methods pursued under the direction of the government surveyor, Mr. Robert Turner; and, so far am I from wishing to detract from the thanks due to him, that I have long since promised to make the process known to you, with the concurrence and aid of that gentleman. You will please to give this insertion, as it is my anxious wish that the public should justly appreciate so important a practice of rearing timber, and bestow their commendations upon those with whom it originated.—*William Bridgewater Page. Southampton, April 18. 1835.*

Further Note on Double Crocuses. (p. 157.)—In London and Wise's translation of Liger's *Retired Gardener*, ed. 1706, p. 443., it is stated that "some of them (crocuses) are double." In Pass's *Hortus Floridus*, part 3. pl. 7. d., two crocuses are figured.—"1. *Crocus arg. striato polyphylo flore*,"

with 9 petals. — 2. "*Crocus pleno aureo flore striato*," with 10 petals. And in Hill's *Garden of Eden*, pl. 23., is a figure of the "double golden crocus," with 10 petals. It must be remarked, however, that the above crocuses figured by Pass and Hill appear to be nothing more than common crocuses, with an accidental increase in the number of petals, and can scarcely be called double flowers. In Holland, I understand, it is not at all uncommon for the crocus to throw out a greater number than 6 petals; but I cannot learn that really double crocuses are known there. This increase in the number of petals frequently occurs in tulips; and, in the instances which have come under my own observation, the flowers have invariably returned to their natural state the following season. — *Oileus abscissus*. *March*, 31. 1835.

Flowering Tropical Plants. (p. 19.) — E. B. seems convinced that the success he had in flowering these plants arises from the main stem of the plant being elongated by the repeated cutting of the extreme shoot, and by striking the same until it arrives about the height or length that it flowers at in its native country. I have no doubt that E. B. has been successful in flowering the plants mentioned, but I should be inclined to attribute it to a different cause: indeed, I am quite convinced that it does not arise from the cause to which E. B. attributes it, though he may feel quite satisfied with the accuracy of his statement. If it is so, I think it will be something new started in vegetable physiology, and that it is well worth the trouble of those that are fond of the study to investigate it.

It is well known to horticulturists, that wholesome checks, as I may term them, are often necessary towards the flowering and fruiting of plants; and I should attribute the flowering of the plants under E. B's care to the repeated checks they must have had from striking. It is well known that cuttings or layers flower much sooner than plants reared from seed; and other causes may produce the same effect, such as stopping the supplies, by reducing the quality and quantity of food, or by changing the temperature, and cutting the roots. Hence both practices have, in many instances, been adopted with great success; for, as the spongioles, which take up the food of plants in a liquid state, are fed more sparingly, the sap flows less rapidly through the woody fibre; the young shoot by degrees ceases to lengthen, and the sap, which is considerably reduced, is employed in swelling and ripening the young shoots and buds, and converting them into flower buds in place of shoots and leaves. The extreme of every thing is bad, and poor stunted plants, if checked too severely, produce no perfect, or at least only sickly, flowers; but strong luxuriant plants, if not checked, generally produce only shoots and leaves.

All plants and trees may be propagated either naturally or artificially: the natural way is by seeds, suckers, runners, tubers, or bulbs; the artificial, by cuttings, layers, &c.; plants raised by the latter systems produce flowers sooner, and they vary not from the mother plant: in fact, they continue the same, though without deriving any longer any advantage whatever from it. When the connexion between a sucker or layer and the mother plant has ceased; the former throws out its fibres in search of food, and grows more or less vigorously, and flowers more or less freely, according to the nourishment it receives.

Plants, says E. B., "struck from cuttings taken from the flowering branches, generally flowered at a small size." By the hypothesis which E. B. advances, we may expect to see, at no very distant period, the giant trees of America, of India, and New Holland, converted into mere dwarfs. — *A. C. Staffordshire*, April 9. 1835.

Destroying the Scale on Pines. (p. 186.) — If I. B. W. will refer to V. 430, 431., he will find that the same ingredients and method of application which he recommends for the destruction of the scale was practised by me, with complete success, eighteen years ago, and without the trouble of brushing the leaves to remove the insects (so much insisted on by him); neither had I occasion to repeat the process. — *James Dall*. *Wimpole Gardens*, April 6. 1835.

ART. IV. *Queries and Answers.*

PERPETUAL Cropping. — In answer to D. W. Stewart, X. 465. I enquired of an old farmer, who came from the banks of the Carron, respecting the fertility of the soil, referred to in the *Conversations on Vegetable Physiology*. He told me that, about forty-five years ago, his father, along with some others, enclosed part of the alluvial deposit which is collected upon the banks of the Carron, and which is composed for the most part of alumine and sand with a mixture of vegetable and calcareous matter. For five or six years after it was enclosed, it produced excellent crops of wheat and beans; and all that was thought necessary to manure it was to sow a few peas along with the beans. Not being fully satisfied with this account, I went to procure part of the soil, on purpose to analyse it, and to get what information I could on the spot. I was then informed that no such thing existed in that part of the country as land bearing crops for thirty years without manure. About sixteen years ago a considerable tract was enclosed; it requires less dung than that which has been longer in cultivation, but still a little is necessary. I brought part of it home with me; and on submitting it to analysis, 1 ounce, or 480 grains, gave as follows: —

Water of absorption	-	-	-	66
Matter destructible by heat, chiefly vegetable	-	-	-	24
Alumina	-	-	-	138
Sand	-	-	-	180
Calcareous matter	-	-	-	12
Oxide of iron	-	-	-	6
Carbonate of lime	-	-	-	24
Carbonate of magnesia	-	-	-	5
Muriate of soda	-	-	-	2
				<hr/> 457
Loss	-	-	-	23
				<hr/> 480

— *Peter Mackenzie. West Plean, Oct. 22. 1834.*

Gardening Authors. — Some account is wanted of the following gardening authors by a gentleman who is preparing a biography of gardeners. It may be sent to W. W., to the care of the Conductor, 39. Paternoster Row: —

John Worledge, or Woolridge, author of the *Systema Agriculturae*, fol. 1669; *Art of Gardening*, &c. He appears to have resided at Petersfield, in Hants.

Stephen Switzer, author of *Ichnographia Rustica*, and other works on gardening. He was a Hampshire man. At the trial of Deacle v. Baring, at Winchester, 14th July, 1831, a John Switzer, a police constable, was examined; as the name is not common, he may be a descendant of Stephen Switzer.

William Boutcher, nurseryman, Comely Garden, near Edinburgh.

Bartholomew Rocque, of Waltham Green. — *W. W. London, May, 1835.*

The Dimensions of the following Trees and Shrubs, mentioned in the *Gent. Mag.*, vol. i., new series, p. 500., are very much wanted for the *Arboretum Britannicum*. The cypress in the Parsonage Garden at Sutton, near Ipswich; the andrachnes at Exbury and at Henham; the *Pinus palustris* at Henham; the tulip tree on Englefield Green, near the turnpike to the right; and the large Oriental plane at Lee, in Kent. — *Cond.*

The south-eastern Part of the County of Sussex is said to be peculiarly suitable for acclimatising plants, and to contain some fine standard magnolias, camellias, myrtles, *Acacia Julibrissin*, pomegranates, and andrachnes. (*Gent. Mag.*, vol. i., new series, p. 500.) We should be very much obliged to any reader for farther particulars of these plants, and for any notices respecting salisburias in every part of the world. — *Cond.*

The Cedar of Lebanon. — At Bretby, in Derbyshire, the seat of the Earl of Chesterfield, is a cedar of Lebanon, 13 ft. 9 in. in circumference, planted in

Feb. 1676-77, which is probably the oldest tree of its kind in this kingdom. The Enfield cedar was planted nearly at the same time; those in the Physic Garden at Chelsea in 1683. (*Gent. Mag.*, 1819, lxxxix. 13.) Again, at p. 600., it is said that there were two or three very large ones at Wolseley Bridge, said to have been brought over by Sir William Wolseley, the traveller, &c.

We have written to the places above mentioned more than once, to ascertain whether these cedars still exist, and, if so, in what state they are; but hitherto we have received no answer. We should be greatly obliged to any of our readers who may reside near Bretby or Wolseley Bridge, if they would procure us the desired information. — *Cond.*

Grafting in May and June is recommended to Dr. Stevenson by his and our ingenious and eccentric correspondent, Mr. Thom of Annan, as preferable to grafting in March and April. Mr. Saul would be glad to know if any one besides Mr. Thom has tried this. — *M. S. Lancaster, April, 1835.*

Has Magnolia grandiflora, or any other species, been introduced in India, at Canton, at Madeira, at the Cape of Good Hope, at Sydney, or at Hobart Town, and, if so, what has been the success? Similar information respecting the tulip tree, and, indeed, respecting all the trees and shrubs cultivated in the open air in Britain, so as to enable us to complete their artificial geography and history for our *Arboretum Britannicum*, is very much wanted, and will by us be most gratefully acknowledged. — *Cond.*

ART. V. *London Horticultural Society and Garden.*

THE Exhibition held at the Horticultural Society's Garden, May 9th, was one of the most splendid which they have ever had. The specimens were, perhaps, not quite so numerous as on some former occasions, but they were very select, and admirably grown. The company were numerous, considering the rather unfavourable state of the weather. The following prizes were awarded: —

Gold Banksian Medals were given for grapes, pines, and cucumbers, from Mr. J. Wilmot, Isleworth; a collection of citrons, from the Rev. C. Annesley; stove orchideous plants, from Messrs. Loddiges of Hackney; a miscellaneous collection of plants, from Messrs. Rollisson; and a miscellaneous ditto, from Mr. Green, gardener to Sir E. Antrobus, Bart.

Large Silver Medals, for pelargoniums, from Messrs. Colley and Hill of Hammersmith; double purple Chinese azalea, from Mr. C. Brown of Slough; *Tropæolum tricolorum*, from Mr. Barnes, gardener to George Norman, Esq.; grapes and pines, from Mr. Dowding, gardener to Lady Clarke; heaths and Dutch anemones, from Messrs. Lucombe and Pince, Exeter; a miscellaneous collection of plants, from Mr. George Mills, gardener at Gunnersbury Park; a miscellaneous ditto, from Mr. Redding, gardener to Mrs. Marryatt, F.H.S.; a miscellaneous ditto, from Mr. Falconer, gardener to A. Palmer, Esq.; a miscellaneous ditto, from Mr. Cornelius, gardener to Mrs. Lawrence, F.H.S.; Chinese azaleas, from Mr. W. Smith of Norbiton; hybrid rhododendrons, from Mr. Gaines, Surrey Lane, Battersea.

Banksian Medals, for calceolarias, from Mr. Green, gardener to Sir E. Antrobus, Bart; heartsease, from Mr. Mountjoy of Ealing; pelargoniums, from Mr. Gaines of Battersea; *Ixora coccinea*, from Mr. Pressley, gardener to Walter Boyd, Esq., F.H.S.; strawberries, from Mr. Stewart, gardener to Lord Ashburton, F.H.S.; auriculas, from Mr. G. Glenny of Twickenham; hybrid rhododendrons, from Mr. W. Smith of Norbiton; Chinese azaleas, from Mr. Lane, gardener to J. H. Palmer, Esq.; a miscellaneous collection of plants, from Mr. C. Brown of Slough; and *Boronia serrulata* and *Erica elegans*, from Mr. Douglass, gardener to Lord De Grey, F.H.S.

April. 7. — Read. An abstract of a memoir on the cultivation of French kinds of pear in Scotland; and on the formation and management of fruit

borders, &c.; by Mr. Grigor Drummond. Communicated by P. Neill, Esq. The reading of this abstract was completed at the following meeting.

Exhibited. A large collection of forced flowers, from Lady Antrobus. Grapes: Muscat of Alexandria, from R. Brooke, Esq. *Andròmeda floribunda*, from Mr. Glenny. Two seedling kinds of camellia, from John Allnutt, Esq., *C. Allnútta álba* and *supérba*. Monstrous polyanthus, and double white-flowered camellia from the open ground, from J. Reeves, Esq. *Pachysandra procumbens*, and a collection of apples, from Mr. Kirke. *Magnòlia conspícua*, from Sir A. Hume. Camellias from the open air, from W. Bromley, Esq. *Bérberis Aquifólium* and a collection of anemones, from Mr. James Young. A collection of narcissuses, hybrid rhododendron, *Pomadérris elliptica*, *Prímula verticillàta*, and *Lachenàlia tricolor*, from Messrs. Dennis and Co. Flowering specimens of camellias and of *Magnòlia conspícua*, from Messrs. Chandler and Co. A collection of flowers, from Mrs. Marryat. *Camèllia reticulàta*, from Mr. Webb. Camellias, from H. Palmer, Esq. A collection of apples, from Mr. S. Hooker.

Also, from the Garden of the Society. *Ribes*, nine kinds of; *Bérberis*, two kinds of; *Pýrus sinénsis*, *Camèllia reticulàta*, *Limnánthes Douglàsii*, *Azàlea ledifolia*, &c. Also *Cereus senilis*, from Mr. Barclay, who had sent the plant to the Society's garden.

April 21. — In the list of works presented, one is, A further Account of a species of Insect of the genus *Thrips*, hurtful to the Olive; and a Report on a work of Dr. P. Negris, entitled "A Memoir on an Insect which devastates the Provinces of Bologna, Romagna, and Ferrara," 1833: presented by the author, Dr. Carlo Passerini.

Exhibited. Specimens of the Travers apple, from H. Dobree, Esq. *Rhododéndron arbóreum*, from Mr. Leslie, gardener to J. Fleming, Esq. Pink azalea and white seedling camellia, from John Allnutt, Esq. *Passiflora quadrangulàris* sweet-scented, *Técoma Pandoræ*; *Kennèdya*, a new species of; from Mrs. Marryatt. *Azàlea índica híbrida* (raised from *A. phoenicea* fertilised by *ledifolia*), from Messrs. Young of Epsom: the specimen had been produced under the culture of the gardener of F. G. Howards, Esq. *Pæonia papaveràcea* and *Moutan* sweet-scented, from Messrs. Rollisson. Specimens of seedling mimulus, from Mr. Andrews, Richard Patterson's, Esq., Blackheath. The following from Mrs. Lawrence: — *Hovea Celsi*, *Polýgala cordifolia*, Smith's scarlet azalea, *Ismène calathina*, *Boronia serrulata*, *Tropæolum tricolorum*, two trays of flowers of varieties of heatsease; *Erica tróssula*, *Hartnellii*, *múndula*, *cerinthoides*, *propendens*, *Bonplandii*, *andromedæfflora*, *Blandfordii*, *aristata major*, and *pyramidalis vérna*; *Solanum crispum*, *Trillium grandiflorum*, and *Dillwynia cinerascens* and *juniperina*; a tray of flowering specimens of camellias and of *Rhododéndron indicum*.

Also, from the Garden of the Society. *Bérberis fasciculàris*, *Pýrus variolosa*; *Ribes niveum*, *cereum*, *aureum serotinum*, *tenuiflorum*, and *speciosum*; *Prunus sinénsis* fl. pl., *Lasthènia californica*, *Nemóphila insignis*, *Gesneria latifolia* and *Douglàsii* var., *E'pactris paludosa*, *Ononis angustifolia*, *Acacia pulchella*, *Lasiopetalum solanaceum*, *Azalea ledifolia*, *Collinsia bicolor*, *Calceolaria viscosissima*, *Aloe distans*, *Oncidium pumilum* and *carthaginense*, *Leptotes bicolor*, and *Wistaria Consequana*.

May 1. — The anniversary meeting was held, when the report of the auditors was submitted, some new office-bearers chosen for the following year, &c.

May 5. — *Read.* A communication on grafting the apricot tree; by Mr. E. de Wael.

Exhibited. Two sorts of apples, from Hasler Hollist, Esq. *Anisanthus Cunonia*, *Anthocercis viscosa*, *Cypripedium pubescens*, *Dillwynia glycinifolia* new var., a seedling pelargonium named *Cicero*, *Lechenaúltia oblata*, and *Hovea Celsi*, from Mrs. Lawrence. Hybrid *Gloxinia caulescens* (fertilised with the pollen of *Sinningia guttata*), from W. Gordon, Esq. A collection of flowers of heartseases, from Mr. Hogg, Paddington. Flowers of *Pæonia papaveràcea*, from Sir A. Hume. Chinese quince, two kinds of *Kennèdya* from Swan River, American dogstooth violet, *Spiræa crenata*, and *Cytisus argén-*

teus, from W. Wells, Esq. A fine specimen of *Myánthus cérnus*, from J. Bateman, Esq. *Tacsònia pinnatistípula*, *Técoma Pandòra*, and new *Ken- nedy* from Swan River, from Mrs. Marryat.

Also, from the Garden of the Society. *Bérberis fasciculàris* and *dealbàta*; *Ribes inèbrians*, speciosum, multiflorum, cereum, and aureum serotinum; *Vaccínium ovàtum*, *Ròsa Báncsiæ lùtea*, *Vibúrnum cotinifolium*, *Wistària Consequàna*, *Collinsia bicolor*, *Muràltia Heistèria*, *Calceolària viscosíssima*, *O'rchis foliòsa*, *Lasthènia californica*, *Onònis angustifolia*, *Metrosidèros floribunda*, *Azàlea ledifolia*, *E'pacris paludòsa*, *Lupinus nootkaténsis* and *rivulàris*, *Fritillària vittata*, *Lobèlia bicolor*, *Pæònia tenuifolia*, double French cherry (*Cérus caproniàna* var.), *Nemóphila insignis*, *Platystèmon californicus*, *Epidéndrum elongàtum pallidum*, *Oncídium bifolium*, *Cynòches Loddigèsii* var., *Myánthus cérnus*, and *Galeándra gràcilis*.

ART. VI. Covent Garden Market.

		From	To			From	To
		£ s. d.	£ s. d.			£ s. d.	£ s. d.
<i>The Cabbage Tribe.</i>							
Cabbages, per dozen :				Celery, per bundle (12 to 15)		0 0 9	0 1 3
White - - - - -		0 0 8	0 1 0	Small Salads { per half sieve		0 2 6	0 3 0
Plants or Coleworts - -		0 1 0	0 1 6	{ per punnet -		0 0 2	0 0 3
Cauliflowers, per dozen -		0 6 0	0 8 0	Watercress, per dozen small			
Broccoli, per bunch :				bunches - - - - -		0 0 3	0 0 6
White - - - - -		0 1 6	0 3 0	<i>Pot and Sweet Herbs.</i>			
Purple - - - - -		0 1 0	0 1 6	Parsley, per half sieve -		0 1 6	0 2 0
<i>Legumes.</i>				Tarragon, per dozen bunches -		0 3 0	0 4 0
Peas, per half sieve -		0 10 0	1 0 0	Fennel, per dozen bunches -		0 1 6	0 2 0
Kidneybeans, forced, per hund.		0 2 0	0 2 6	Thyme, per dozen bunches -		0 2 0	0 0 0
<i>Tubers and Roots.</i>				Sage, per dozen bunches -		0 2 0	0 2 6
Potatoes - { per ton -		2 0 0	3 0 0	Mint, per dozen bunches -		0 1 6	0 2 0
{ per cwt. -		0 2 0	0 3 0	Peppermint, dry, per doz. bun.		0 1 0	0 0 0
{ per bushel -		0 1 3	0 1 9	Marjoram, green, per dozen			
Kidney - - - - -		0 1 6	0 1 9	bunches - - - - -		0 4 0	0 6 0
Scotch - - - - -		0 1 3	0 1 6	Savory, green, per dozen bun.		0 2 0	0 3 0
New, per pound - - -		0 0 6	0 1 6	Basil, green, per doz. bunches		0 6 0	0 8 0
New Kidneys from Cornwall		0 0 4	0 0 6	Rosemary, per dozen bunches		0 3 0	0 4 0
Jerusalem Artichokes, per half				Lavender, dry, per dozen bun.		0 3 0	0 0 0
sieve - - - - -		0 1 6	0 2 0	Tansy, per dozen bunches -		0 2 0	0 0 0
Turnips, New, White, per bun.		0 0 9	0 1 3	<i>Stalks and Fruits for Tarts</i>			
Carrots, per bunch :				<i>Pickling, &c.</i>			
Old - - - - -		0 0 6	0 0 8	Rhubarb Stalks, per bundle		0 0 6	0 1 3
Young - - - - -		0 0 9	0 1 0	Angelica stalks, per pound -		0 0 3	0 0 6
Horn - - - - -		0 0 8	0 0 10	<i>Edible Fungi and Fuci.</i>			
Parsneps, per dozen -		0 0 8	0 1 0	Mushrooms, per pottle -		0 0 6	0 0 9
Red Beet, per dozen -		0 0 6	0 1 6	Morels, per pound - - -		0 16 0	0 0 0
Horseradish, per bundle -		0 1 6	0 4 0	Truffles, per pound :			
Radishes :				English - - - - -		0 4 0	0 6 0
Red, per dozen hands (24 to				Foreign - - - - -		0 12 0	0 14 0
30 each) - - - - -		0 0 6	0 0 8	<i>Fruits.</i>			
White Turnip, per bunch		0 0 1½	0 0 2	Apples, Dessert, per bushel :			
<i>The Spinach Tribe.</i>				Reinettes - - - - -		0 12 0	0 16 0
Spinach { per sieve - - -		0 1 6	0 2 0	Nonpareils - - - - -		0 16 0	1 4 0
{ per half sieve -		0 1 0	0 1 3	Baking, per bushel - - -		0 4 0	0 7 0
Sorrel, per half sieve - -		0 1 0	0 1 3	French - - - - -		0 4 0	0 6 0
<i>The Onion Tribe.</i>				Peaches, per dozen - - -		3 0 0	0 0 0
Onions, Old, per bushel -		0 3 6	0 5 0	Almonds, per peck - - -		0 6 0	0 0 0
For pickling, per half sieve		0 2 6	0 4 0	Cherries, per pound - - -		1 0 0	1 10 0
when green (Ciboules), per				Gooseberries, per half sieve		0 4 0	0 5 0
bunch - - - - -		0 0 1	0 0 3	Strawberries, forced, per oz.		0 1 0	0 1 6
Garlic, per pound - - -		0 0 10	0 1 0	Pine-apples, per pound -		0 8 0	0 14 0
Shallots, per pound - -		0 1 0	0 1 3	Grapes, per pound :			
<i>Asparaginous Plants,</i>				Hot-house - - - - -		0 5 0	0 12 0
<i>Salads, &c.</i>				White Portugal - - -		0 1 0	0 1 3
Asparagus, per hundred :				Cucumbers, frame, per brace		0 2 0	0 3 6
Large - - - - -		0 6 0	0 8 0	Oranges { per dozen - - -		0 1 0	0 3 0
Middling - - - - -		0 3 6	0 5 0	{ per hundred - -		0 5 0	0 18 0
Small - - - - -		0 1 6	0 2 0	Lemons { per dozen - - -		0 0 9	0 2 0
Sea-kale, per punnet - -		0 1 0	0 1 6	{ per hundred - -		0 5 0	0 16 0
Lettuce, per score :				Sweet Almonds, per pound		0 2 3	0 2 6
Cos - - - - -		0 1 0	0 1 6	Brazil Nuts, per bushel -		1 14 0	0 16 0
Cabbage - - - - -		0 0 4	0 0 6	Spanish Nuts, per peck -		0 5 0	0 0 0
				Barcelona Nuts, per peck -		0 6 0	0 0 0

Observations. — The supply, since the last report, has been upon the whole good, the articles coming into season steadily; while many of the late winter crops, such as broccoli, coleworts, and spinage, standing over in consequence of the rather backward state of the spring, form an abundant supply. As yet we have had asparagus in very moderate quantities: it has realised to the growers a fair price. Spring cabbages have been plentiful; prices moderate. Some peas have been furnished from time to time during the last three weeks; principally from frames or houses; but on Friday the 15th, and Saturday the 16th, some half sieves from the open ground (of course, from the fronts of south walls) were in the market at the prices quoted. At the same period last year, we had a moderate supply from the open fields and gardens of Kent and Middlesex; upon comparison, I should consider the difference of the two seasons equal to a week or ten days. Of cauliflowers, some of excellent quality and good size; early potatoes plentiful, with a steady supply from Cornwall by steam. Cos lettuces, of excellent quality, are plentiful, both from the autumnal and spring planting. It has always been considered that our friends and neighbours in France were in the habit of consuming vegetables more extensively than ourselves; and, during the time that so many were exiled in London, the gardeners considered that the demand for these articles had been increased. Impressed with this opinion, I certainly expected, on visiting Paris, to have found the markets of that city more extensive and better supplied with every article than our own. To my great surprise, I did not observe this to be the case; on the contrary, I could not discover any feature of resemblance as to the quantities supplied, nor could I trace, during my stay, at the respective tables to which I had access, any thing to satisfy me that such was the case. As it was exactly at the corresponding period of the spring last year that I was there, I have this season noted down a rough sketch of supply to our principal market on each Saturday, the 2d, 9th, and 16th of the present month. On the 2d of May we had sixty waggon-loads, and eighty cart-loads, of different vegetables, in bulk; besides all that were pitched (perhaps equal to half that quantity), in baskets, on a surface quite equal to an acre and a half of ground, which comprises the space appropriated to that purpose; this altogether independent of the supply of potatoes: on the 9th, fifty-seven waggon-loads, and seventy-five cart-loads, besides the usual supply in the interior squares of the market: and, on the 16th, sixty waggon-loads, and seventy cart-loads. On the 23d, we also had several parcels of peas from Middlesex, some from Kent, and a quantity by steam from Penzance. Presuming the difference of season, as compared with the last, equal to ten days, I cannot observe any difference in the time of supplies to the markets of the two capitals. — *G. C. May 23.*

ART. VII. *Obituary.*

DIED, April 22d, at Bellwood, in the county of Perth, *William Dickson, Esq.*, of Barnhill, formerly of the house of Dickson and Brown, now Dickson and Turnbull, of Perth, nursery and seedsmen. Mr. Dickson was one of the five sons of Mr. Robert Dickson of Hassendeanburn, the father of nurserymen in Scotland, and a brother of Walter Dickson, Esq., of Edinburgh, who retired from business some years ago, and who must now be the senior nurseryman in Scotland. A notice of this family, from the establishment of the Hassendeanburn Nursery in 1728 to the present time, will be found in our *Arboretum Britannicum*. William Dickson of Perth is said to have been remarkable for a peculiarly systematic manner of doing business. Neither he nor his brother at Edinburgh ever married.

THE
GARDENER'S MAGAZINE,
JULY, 1835.

ORIGINAL COMMUNICATIONS.

ART. I. *Notes on Gardens and Country Seats, visited, from July 27. to September 16. 1833, during a Tour through Part of Middlesex, Berkshire, Buckinghamshire, Oxfordshire, Wiltshire, Dorsetshire, Hampshire, Sussex, and Kent.* By the CONDUCTOR.

(Continued from p. 163.)

AUG. 26. — Northenwood, J. Pulteney, Esq. — This seat, formerly known as Mount Royal, is situated on a fine eminence close to the village of Lyndhurst. The house is placed in a commanding situation, backed by wood, with the village and church in front. There is a conservatory adjoining it, a level terrace walk, and a fine sloping lawn. Some comfortable cottages are erecting near the entrance, but the chimney tops want that boldness and freedom which is so satisfactory to the architectural eye. There is a handsome entrance lodge, and an approach on an elevated level which leads to the back front of the house; so that the principal views are, as ought always to be the case, not seen till we enter the principal room.

Cuffnells, Sir Edward Poore, Bart. — Nature has done much for this place, in the variation of the ground, and in the distribution of some fine indigenous oak and beech trees, the remains of the forest. The house is well placed, and there is a magnificent conservatory attached to it, but with rather too opaque a roof, so that the trees planted in it, though they are tall, have not that vivid green, and strong healthy appearance, which they would have if the roof were entirely of glass. Neither do they flower freely, for the same reason. The appearance round the house is unsatisfactory, for want of a terrace in front, and a lawn and pleasure-ground; in short, for a want of that appearance of art, and high finish, which ought always to accompany such a mansion. For these appendages there is every natural facility, and we know of few places that would be so much improved by

their addition. There is a naked shadeless walk which leads to a small flower-garden, a rosary, and the kitchen-garden. The flower-garden is surrounded by a low brick wall, on which are some fine Cape and Australian shrubs, which stand the winter without the slightest protection [some of these have been already noticed, p. 208.]. We noted down *Acácia lophántha* and *armata*; *Plumbàgo*, two specimens; *Vibúrnium rugòsum*, several camelias, *Escallònia montevidénsis* and *rùbra*, *Maurándya*, *Alstrœmèria*, *Hedýchium*, *Agapánthus*, *Mesembryáanthemum*, &c. &c. In the boundary hedge of the rosary were large myrtles, and a *Callistèmon lanceolátus*, 15 ft. high, which had been out ten years. Near the conservatory was a *Rhododéndron pónticum*, 15 ft. high, the branches of which covered a space 39 yards in circumference; and, in a shubbery at the back of the kitchen-garden, were two or three fine specimens of liquidambar, deciduous cypress, catalpa, and large planes. The effect of the yellow green foliage of the latter in these grounds, and also at Paultons and other places, is very striking as contrasted with the dark green of the magnificent oaks and hollies, which are so abundant in both places. This, and several circumstances of the kind, may afford important hints to landscape-gardeners in the distribution of trees.

Ringwood. — We took a circuitous road to this place, in order to see as much as possible of the forest scenery. The first part of our route displayed oaks and hollies, chiefly of great age, distributed over a varied and broken surface; showing fine rising glades and green bottoms, with occasional glimpses of distant scenery of the same character. To the oaks succeeded several miles of beeches; and to these a comparatively open country, with new plantations of Scotch pines and oaks in regular enclosures. The major part of the surface of a route of thirteen or fourteen miles was, however, nearly bare, but with a rich soil, as was decidedly proved by the size of the furze and the fern. We cannot help being of opinion that it would be better for the public, and the government also, if the whole forest were sold to individuals and cultivated as private property. The church at Ringwood has double doors; one set having, as usual, solid panels, and the other panels of open work; the latter only are closed in fine weather, so that a current of air passes through the church, which is thus kept always thoroughly ventilated; a practice which seems to deserve general adoption.

Hounslow's Nursery. — Mr. Hounslow pointed out to us a singularly eligible site for an American ground, which has lately come into his occupation, and in which he means to cultivate a good collection, having already possessed himself of stools of some valuable hybrid azaleas and rhododendrons. He has had the good fortune to raise a new variety of the early

Battersea, or East Ham, cabbage, which, on an average, comes in three weeks sooner than the ordinary variety. It has been exhibited at the Salisbury shows, and highly approved of, and may be asked for of the seedsmen under the name of Hounslow's early cabbage. It was most gratifying to us to see so industrious a man in this comparatively remote situation, creating a nursery which will soon become a great ornament to the town, as well as, we trust, a substantial benefit to himself. He has a good stock of that best of all gooseberries, the Ironmonger.

Somerley House, Lord Normanton. — The house stands on a prominent brow of high banks, 60 ft. below which are the extensive water meadows of the Avon. The grounds about the house are admirably adapted for an extensive level terrace walk; but this idea has been only slightly carried into execution by an uneven narrow walk, which is, however, two miles in length. On the platform behind the house is some pleasure-ground scenery, with aviaries, and other ornamental buildings, very neatly kept; but the buildings are in bad taste, being finished with half columns, and having, in the intercolumniations, doors and windows with circular heads, and of different heights, even under the same pediments; than which nothing can be more contrary to unity of system and effect. We had not a near view of either front of the house, the family disliking the appearance of strangers. The place, as far as we saw it, was in very good order. The kitchen-garden is on the level grounds, on the bank of the Avon, about a mile from the house. Some of the water meadows are divided by wire fences, which may well be called invisible. They are composed of wires, about the eighth of an inch in diameter, each about 300 ft. long, and screwed tight into an oak post, concealed in a group of thorns.

On the road from Ringwood to Wimborne Minster are some extensive plantations of pinasters, which, on the poorest soils, Mr. Hounslow informs us, grow faster than either the Scotch pine or the larch: the timber, however, especially when young, is light and porous, and is less durable than that of either of those trees; the trunks are also less straight. On approaching Wimborne there are extensive fir plantations to the left, which caught fire accidentally upwards of a year ago; and the fire scathed them for some miles in extent, burning their branches and blackening their trunks so as to produce a very dreary and singular effect. Had there been deciduous trees among these plantations, they would have recovered on being cut over by the surface, as furze copses which have been burned down are found invariably to do; but resinous trees, every one knows, do not stole. To the right of the public road is Canford House, on the banks of the Avon, a monastic Gothic building, among fine old trees. It has a charming effect from the road. The minster

at Wimborne would afford a fine study for the antiquary, as would many of the chimney tops of the houses in the town to the modern architect. In some of the streets, vines, climbing roses, honeysuckles, and even herbaceous flowers, are planted in the crevices of the pavement, and trained up against the houses. These flowers, some small flower-gardens hardly fenced, and the lead hanging from the eaves of the church, speak favourably of the manners and morals of the people.

August 27.—From Wimborne, through Blandford, to Shaftesbury. The greater part of the road to Blandford is over naked downs, steep chalky hills succeeding to valleys all the way. The country on both sides is most fatiguing to the eye of every one but a fox-hunter. *Iris foetidissima* is abundant by the road side. The road from Blandford to Shaftesbury is through a fine country, but it is extremely hilly.

Kingston Hall, James Bankes, Esq. — This place is close to Wimborne, and is distinguished on approaching it by cedar trees planted in the waste on the sides of the road, and by an elegant entrance gate and paling to the approach road. The park is varied by single trees of good kinds, and in particular by a number of cedars. The house is an old cubical building, and no attention, we were told, was at that time paid to the gardens.

Langton House, J. B. Farquharson, Esq. — The house is in a bottom, with a meadow and the river Stour in front, and a gently elevated country beyond. The first impression on a stranger is surprise, that a new house should be placed in so tame and featureless a situation; its architecture is simple, and in the Roman style; we only object to the unarchitectural iron railings to the balcony, and some huge projecting flowers, carved in stone, the meaning of which is not obvious. Time, however, will consecrate them; but we question much whether this ever will take place with the festooned fender-like iron railings. The grounds are laid out by Mr. Page; but being little more than commenced, we can hardly give an opinion upon them, farther than commending the gravel walks, which are brimful, with the grass edgings not cut. Excellent hints for planting the shrubs might be taken from Bear Wood (IX. 679.). We would not, however, introduce many flowers, if any, in such shrubberies as those here forming, because they never can acquire sufficient nourishment from the soil, or room among the shrubs, to grow vigorously and look thriving. We would have the turf in all such shrubberies lose itself among the shrubs, which would at the same time greatly reduce the labour of the gardener, and yet improve the beauty of the scenery under his care. The kitchen-garden is well laid out, with a small but complete range of hot-houses and sheds; and a very neat and

commodious gardener's house. The whole is kept in good order by Mr. Cooper, who, with Mr. Humphrey of Oxford, was one of the first members of the Clapton Nursery Book Society. There is here a fine specimen of Lucombe oak, and another of the Fulham variety of the same tree; the former is an erect rigid-growing tree, and the latter has graceful drooping branches. We may notice here an error which we have found in several other houses seen in our tour; viz., that the entrance porch is at one end, in consequence of which the whole of the lawn scenery will be seen from the approach; a result which, for reasons often before stated, is any thing rather than desirable. In our opinion, the house ought to have been placed on a platform at least 10 ft. higher than it is, and the approach should have been from behind. The largest and best field of Swedish turnips which we have seen since we left London is on this estate; they are on the raised drill system, under Mr. Meikle, a Scotch bailiff. Mr. Farquharson, we understand, farms several thousand acres, and is so enthusiastically fond of the pursuit, that he attends the markets himself.

Blandford contains three nurseries, kept by Gill, Stead, and Barnard, which we had not time to see, but of which we are promised some account by Mr. Rogers, the very intelligent gardener at Bryanston House. There is a handsome old Grecian church, and some good tombstones in the churchyard; and near are some houses with very remarkable brick chimney tops, and, in particular, one behind the New Inn, the shafts of which are ornamented with slender three-quarter columns, with capitals of brick, of the same kind as that of the shaft.

Bryanston House, J. Portman, Esq. — The house, like that of Langton, is in a bottom, with the meadows of the Stour and a fine reach of the river in front; but it is placed much higher, backed by steeper hills, and commands much bolder ground on the opposite side of the river. Arrived at the house, and looking from the windows, and afterwards walking along the grassy terraces, this appears a truly noble place; but, analysed, it has the great and glaring faults of many places formed like it sixty or seventy years ago. In the first place, the approach, which need not have exceeded a furlong in length on a level, or gradual ascent, is drawn out to upwards of a mile, by first ascending a steep hill, immediately on entering by the lodge, and next descending one still steeper, immediately before making a quick turn round to the entrance front of the house. No approach was ever worse contrived; and our impression is, that the sooner a short and level one is made the better. The entrance of the house is also the lawn front, so that the flower beds are obliged to be placed in a walled garden by themselves. This walled garden is replete with appropriate beauty, and in one part of it

contains all the hot-houses and pits. In the two last we found excellent crops; particularly of pines and grapes. The grapes grown here are almost entirely the Muscats and Frontignans; of one white variety of the latter there is here one of the only three plants which are believed to be in England. The grapes are round and of a large size, and the flavour is exquisite. We hope Mr. Rogers will send cuttings of it to the London Horticultural Society. As the Frontignans are known to produce crops only in soil where the bottom is perfectly dry, and the soil not deep; and, as the bottom here is a dry chalk, the crops are abundant every year. Indeed, we never saw such crops before of this grape. There are also many Cape, Australian, and other green-house plants, in the open air, which are found to stand the winter with little or no protection. Among these are *Verbena chamædrifolia*, *Calceolària bícòlor*, *Lobelia fulgens* and *speciosa*, and several acacias, *metrosideroses*, *melaleucas*, *psoraleas*, &c. The kitchen-garden is large, and is surrounded by an excellent wall, with coping projecting about 6 in.; it is covered with admirably managed trees loaded with fruit. The entire garden seemed without a single weed or dead leaf. The whole of the walled flower-garden and pleasure-ground scenery was also in the most perfect order, with the exception of the sinking in of the surfaces of some of the flower beds and gravel walks, and the deep and harsh edges consequently produced. These defects will, of course, be remedied the ensuing winter. We have only to add, what we can never sufficiently commend; viz., that this place is at all times open to all the decently dressed inhabitants of Blandford, and to all other respectable persons. The grassy terraces, called the cliff walks, are scenes of extraordinary dignity and beauty. Besides the views of the river, the park, the country beyond the bridge, and the town of Blandford, they display in the foreground some fine specimens of exotic trees, and of yews, boxes, and hollies; the surface of the ground was in some places covered with vigorous plants of *scolopendrium*, and in others with beds of native violets and primroses. In spring the whole of the native woods of this place must afford a rich treat to the botanist, and lover of native flowers. The box, which here attains a large size, seeds itself, and young plants are rising up by thousands: the same will soon be the case with *rhododendrons* and *azaleas*. There are a spruce fir 11 ft. in circumference at 4 ft. from the ground, and about 70 ft. high; some very large and beautiful Oriental planes, purple beeches, acacias, cedars, *arbor-vitæ*s; and a very large catalpa, now covered with flowers, with a trunk 18 in. in diameter. Mr. Rogers has an excellent library, including both our Magazines from their commencement. We only wish that he would be a more frequent contributor to them.

August 28. Shaftesbury. — Towns may be divided into three kinds : the most ancient, placed in situations not easily accessible to an enemy, as on the summits of hills, such as this town ; in situations favourable to the commerce of the middle ages, as on the sea-shore or on rivers ; or in situations favourable to modern commerce, or in flat countries which may be intersected by level roads. Whatever else of good the reform bill may have done, the disfranchisement, partially or wholly, of such towns as Shaftesbury cannot but be favourable to the morals and industry of the people ; because it will oblige members of families who have hitherto lived upon bribes, to apply themselves to industry ; and when this is the case, such an inaccessible site as Shaftesbury will soon be comparatively deserted. It is best fitted for forming a magnificent country seat ; as there is a considerable portion of table-land, the views from which on every side are varied and extensive. It is curious to observe a remark in the road-book, that one half of the inhabitants live by carrying water ! At the inn where we stopped, the well was 120 ft. deep to the surface of the water ; but, by sinking this well 50 ft. deeper, and employing a small steam-engine, the whole town, the population of which is between 2000 and 3000, might easily be supplied. We were glad to observe a number of fields at the bottom of the hill, subdivided into potato and cabbage grounds, for the people of the town.

Motcombe House, Lord Robert Grosvenor. — The situation is flat and dull in the extreme ; because it is flat without water on the ground, and without hills in the immediate vicinity ; in short, a flat in the midst of a flat. Along the road there is an extensive plantation recently formed, the weeds in which, such as docks and thistles, both in full seed, were more abundant than the trees.

Stourhead, Sir Richard Colt Hoare, Bart. — This celebrated place is so well known, that we shall make no attempt to describe it. Alfred's Tower is distinctly seen from Shaftesbury, and, indeed, from the rising grounds for twenty miles round on every side. Such towers are always sources of gratification in a country ; they afford pleasure to every traveller, and in that respect, they are altogether more noble objects than those temples and other garden buildings, which afford pleasure to, or, perhaps, more correctly speaking, are seen only by, the occupier or visitants of the place. Stourhead may be characterised as a fine specimen of country residences of the old school of modern gardening, as well in the manner of laying it out, as in the style of keeping it up. There is a good deal of formality and quaintness mixed with fine natural features in this place ; formality in the regular cutting of the undergrowths and hedges of laurels, which, as a lady who accompanied us observed, looked like beds of gigantic moss, and overgrown

hedges of box ; and quaintness in the continuance of the over-conspicuous and superfluously high stone bridge, and the numerous temples and statues. The obelisk, also, with the gilt sun over it, and the monastery with its spire-like chimney top, might be adduced in support of this opinion. However, the basis of the whole remains the same as it was originally ; and with a certain degree of remodeling in the walks and in the undergrowths, for the place is rendered monotonous by the prevalence of laurel, and the addition of modern choice trees and shrubs, Stourhead might still hold its rank as one of the first in the island. The walks are everywhere too narrow, and too unmeaningly devious in their lines of direction ; they are also too deeply sunk in the soil, though the latter may be a fault of neglect. The head of the water near the stone bridge should be concealed by low growths, and the bridge reduced to a low structure, because at present it is so conspicuous, as actually to prove a deformity in the landscape. Of late years, a number of rhododendrons have been distributed over the grounds ; but they are dotted in too equidistant a manner, and in a few years, if they are not removed, will destroy all breadth of effect in the lawn. It would have been better to have substituted them for part of the common laurels, which, as we have before observed, are much too abundant for scenery of so limited an extent, and which give a sameness to the woods unworthy of a place presenting in other respects so much beauty. Two thirds at least of these laurels ought to be removed, and their place supplied by rhododendrons and other American shrubs ; and by box, holly, and yew. This would be nothing more than acting in the spirit of the original planter, laurels being, about the middle of the last century, as choice as rhododendrons are now. These points attended to, and the ornamental buildings put into thorough repair, the valley of lakes at Stourhead would form a scene of great and unique beauty. Nothing can be finer than the first impression made by the water a few paces within the entrance from the inn. The guide-book informs us that we ought to enter from the lawn front of the house ; but this we found impracticable. The church and churchyard are pleasingly situated on a sloping bank, and the churchyard is one of the best kept which are to be seen in England. Roses and other flowering shrubs are planted against the church ; cypresses and other trees are sprinkled among the graves, and the grass is kept as smooth as any lawn. The tombs of the Hoare family are in an open chapel at one end of the church, and the tombs of their stewards at the other, the latter containing the remains of three generations of the same family. The fence is a sunk wall with its perpendicular side towards the church, so that at a short distance there appears to be no fence at all, and

the whole seems a component part of the pleasure-ground. We have seldom seen any thing so well managed. There is a handsome circular stone seat in the churchyard, which the guide informed us the present baronet built to enable the country people, while waiting till the service began, to sit down in the open air, rather than to go into the damp church. To prevent this dampness, a hint might be taken from the practice at Ringwood (p. 330.).

The drive at Stourhead, which is said to be six miles in extent, displays some fine woods and extensive prospects; but the ascents are too steep to be enjoyed by those who, like us, travel with only one horse. Were the rule of two inches in six feet to be adopted, as a maximum of steepness in all roads and walks whatever, public and private, no objections could be made. The table-land on which the tower stands having been gained, the terrace drive there, which is three miles in length, and nearly level, and covered with soft turf, is one of the finest things of the kind in the kingdom. The view extends over many miles, and into several counties. One of the finest features about any extensive place which is hilly, or contains a high hill, such as Stourhead or High Clere, is a smooth road which shall ascend almost insensibly, and by a beautiful route to the top of the hill, and descend again equally agreeably by a different road. There is no hill that exists in which this effect may not be accomplished; and of this the ascent and descent of the Simplon is a standing proof.

The kitchen-garden was shown us by the present gardener, Mr. Lapham, an old man, who was brought up on the spot under the former gardener, Mr. Wood, whose daughter has the showing of the grounds. We saw the very excellent collection of Geraniaceæ, which are managed under the immediate direction of Sir Richard himself. The flower beds, and other parts of the garden, were in good order.

It is but justice to state that every part of Stourhead was uniformly well kept; not in what is entitled to be called high keeping, because the edges of the walks and roads were harsh and disagreeable, and some things were going to decay; but, with these exceptions, we have no fault to find. What highly gratified us was, to see as much attention paid to the public road, and roadside without the entrance arch, and thence to the inn, the steward's house, the cottages, and the church, as is paid to the grounds within the pleasure-ground fence. The flower-gardens to the line of cottages opposite the church are as well planted, and nicely kept, as the flower-beds on any gentleman's lawn. We must not omit to mention a curious common spruce fir, which stands near the stone bridge we have condemned: three of the lower branches of this tree, resting on the ground, have

taken root, and their points shot up into regular trees from 20 ft. to 30 ft. in height. The leading shoot of the parent tree appears to have been broken off at an early period, and the stem has in consequence put out a number of contending shoots, which reach the height of 30 ft. or 40 ft. from the ground. This tree, as well as some spruces at Syon, the Whim, and other places, proves most clearly, if proof were wanting, that the rooted cutting of a pine or fir branch may form a tree, as well as a seedling, though it does not always do so for some time. In another part of the grounds, beyond the ferry-boat passage, is *Pyrus pinnaúfida*, grafted on a common thorn, a shoot from the stock forming an equally large tree with the scion. The road from Stourhead to Hindon is over undulating downs, apparently interminable in extent. At Willoughby Hedge Gate, a whole length picture of a shepherd arrested our attention, and we soon found that it was the work of the gatekeeper, Peter Hawkins, a self-taught artist, who has attained considerable proficiency in portrait-painting, not only without encouragement, but in opposition to the wishes of his father. The latter desired him to study other branches of knowledge; but he had no inclination for any thing but painting. This man, like Shindle, the porter at Tottenham Park (Vol. X. p. 418.), is evidently a genius; and, having the advantage of youth, it is much to be wished that some person of influence would be at the expense of supporting him a short time in London, where he would profit by having his talents brought into collision with genius of his own kind in a state of cultivation. We arrived at Hindon exceedingly fatigued, and shall there prepare ourselves by repose for examining Fonthill.

(*To be continued.*)

ART. II. *Some Remarks on the Roots and other indigenous Esculents of Van Diemen's Land.* By Mr. JAMES BACKHOUSE, Nurseryman, York.*

THE most extensively diffused eatable roots of Van Diemen's Land are those of the tara fern, and of various plants of the

* The author of this article is the partner of Mr. Thomas Backhouse of York; and the nursery belonging to that respectable family is one of the oldest in the north of England. Mr. James Backhouse went to Van Diemen's Land purely with philanthropic views: and, though a scientific naturalist, pursuits of that kind were but secondary objects with him. The last accounts received from Mr. Backhouse state that he was at Sydney on his way home. When he is once more in the bosom of his family, we hope we shall receive many interesting particulars from him respecting the natural history and gardening of Australia, both for this Magazine and also for the *Magazine of Natural History*. — *Cond.*

orchis tribe. The former greatly resembles *Ptèris aquilina*, the common fern, brake, breckon, or brackin, of England; and, like it, throws up its single stems at short distances, covering great extents of light or rich land. The Van Diemen's Land plant is *Ptèris esculenta*: it is known among the aborigines by the name of tara; by the same name the inhabitants of the South Sea Islands call a variety of esculent seeds and roots. *Ptèris esculenta* is known among the European inhabitants of the colony by the name of fern, in common with many other plants of the same tribe, none of which, however, spread over extensive portions of open land in the same manner. It varies in height from a few inches to several feet, according to the richness of the soil in which it grows, and in some parts of the colony it is so tall as to conceal a man on horseback. The root is not bulbous, but creeps horizontally at a few inches below the surface of the earth, and where it is luxuriant attains to the thickness of a man's thumb. Pigs feed upon this root, where it has been turned up by the plough, and in sandy soils they will themselves turn up the earth in search of it. The aborigines roast this root in the ashes, peel off its black skin with their teeth, and eat it to their roasted kangaroo, &c., in the manner that Europeans eat bread. The root of the tara fern possesses much nutritive matter; yet it is to be observed, that persons who have been reduced to the use of it, in long excursions through the bush, have become very weak, though it has prolonged life. Whether this arose from an insufficient supply in consequence of the parties being too much exhausted to dig it up before they resorted to it, or from eating it raw, or from some other cause, I am not able to determine. It is quite certain that, when this root is grated, or reduced to a pulp by beating, and mixed with cold water, a large quantity of arrow root is precipitated, which adheres to the bottom of the vessel, and which may easily be prepared for use by pouring off the water and floating matter, adding fresh water and stirring up the white powder, and again allowing it to settle. It may then be cooked by boiling, or the powder may be spread on cloths and dried in the sun, or hung up in linen bags where there is a free circulation of air. Many vegetables yield arrow root, which, when it is well prepared, cannot be distinguished from that produced by the *Maránta arundinæa*. It is essentially necessary, from whatever it is prepared, that it be dried quickly, without great heat, as too much heat renders it gluey.

Small bulbs of the orchis tribe of plants are very generally diffused over the open and thinly wooded parts of Van Diemen's Land; they, also, are eaten by the aborigines, and by cockatoos, bandicoots, kangaroo rats, &c. Little holes are often seen where the latter animals have been scratching for them. *Gastròdia sesamöides*, a plant of this tribe, which grows particularly from

the decaying roots of the stringy bark tree, produces bulb tubers growing one out of another, of the size, and nearly the form, of kidney potatoes: the lowermost is attached by a bundle of thick fleshy fibres to the root of the tree from which it derives its nourishment. These roots are roasted and eaten by the aborigines; in taste they resemble beet-root, and are sometimes called in the colony native potatoes.

There are also a few other native plants that produce small tubers, which are eaten by the aboriginal population, but none of them are worthy of being compared with the common potato or turnip.

The native blacks of Van Diemen's Land split open about a foot and a half of the top of the trunk of the common tree-fern of the colony (*Cibotium Billardièri*), and take out the heart, in substance resembling a Swedish turnip, and of the thickness of a man's arm. This they also roast in the ashes, and eat as bread; but it is too bitter and astringent to suit an English palate. It is said that the aborigines prefer the heart of *Alsophila australis*, a larger species of fern tree, found at Macquarie Harbour, and in other places on the western side of Van Diemen's Land.

A species of tuber is often found in the colony, attaining to the size of a child's head: it is known by the name of native bread; its taste somewhat resembles boiled rice. Like the heart of the tree fern, and the root of the native potato, cookery produces little change in its character. I have often asked the aborigines how they found the native bread, and have universally received the answer — a rotten tree.

An esculent fungus is found growing in clusters around swollen portions of the branches of the myrtle of the colony (*Bétula antarctica*; this tree is not a *Bétula*) [*? Fagus betuloides*; see first *Add. Sup. Hort. Brit.*], in the western part of the island. It varies from the size of a marble to that of a walnut; when young, it is of a pale colour, whitish, and covered with a skin like that of a young potato: this skin is easily taken off, and the remaining portion, when raw, tastes like cold cow-heel. When this fungus is matured, the skin splits and exhibits a sort of network of a yellowish white colour.

The large white fungus, called in the colony punk, which grows from the stringy bark tree, is said to be eaten when fresh by the aborigines.

It is almost unnecessary to mention the common mushroom, so abundant in many parts of the island, and of so agreeable a flavour: it seems to be precisely the same as the mushroom of England (*Agaricus campestris*).

The blanched portion of the base of the inner leaves of some rushes, and of a flat sedgy plant growing on the sand-hills of the

coast, having the mature leaves an inch wide and of a deep green, are eatable and of a nutty flavour. The flowers of this plant, to the eye of a common observer, resemble those of rushes: they grow in clusters on a stem as flat and broad as the leaves.

The base of the inner leaves of the grass tree (*Xanthorrhœa arborea*) is not to be despised by the hungry. The aborigines beat off the heads of these singular plants by striking them about the top of the trunk with a large stick; they then strip off the outer leaves and cut away the inner ones, leaving about an inch and a half of the white tender portion joining the trunk; this portion they eat raw or roasted; and it is far from disagreeable in flavour, having a nutty taste, slightly balsamic. There are some other species of grass tree in the colony, the base of the leaves of which also may be used as food: those of the dwarf grass tree (*Xanthorrhœa humilis*), so abundant about York Town, may be obtained by twisting the inner leaves firmly together, and pulling them forcibly upwards; but care is required not to cut the fingers by slipping the hand.

The eatable fruits of Van Diemen's Land are not numerous, and none of them are worthy of comparison with the commonest English fruits: they rank in value nearly in the following order:—

Solanum laciniatum, the kangaroo apple, resembling the apple of a potato. When so ripe as to split, it has a mealy subacid taste.

Mesembryanthemum æquilaterale, pigfaces, called by the aborigines by the more elegant name of canagong. The pulp of the almost shapeless, but somewhat obconical, fleshy seed-vessel of this plant, is sweetish and saline: it is about an inch and a half long, of a yellowish, reddish, or green colour.

Polygonum adpressum, the Macquarie Harbour vine, either as an insignificant trailing plant, or as a magnificent climber, according to soil and situation, is found on the coast of various parts of Van Diemen's Land, and also as far inland as within about four miles of New Norfolk. This plant has a small but sweet fruit, formed of the thickened divisions of the calyx, enclosing a triangular seed of unpleasant flavour. [See Vol. VIII. p. 347.]

Gaulthéria hispida, the wax-cluster, abundant in the middle region of Mount Wellington, and in other elevated and moist situations in the colony. This fruit is formed by the thickened divisions of the calyx, enclosing the small seed-vessel: when it is ripe it is of a snowy white. The flavour is difficult to describe, but it is not unpleasant. In tarts the taste is something like that of young gooseberries, with a slight degree of bitterness.

Astroloma humifusum, the native cranberry, has a fruit of a green, reddish, or whitish colour, about the size of a black currant, consisting of a viscid apple-flavoured pulp, enclosing a large

seed. This fruit grows singly on the trailing stems of a small shrub resembling juniper, bearing beautiful scarlet blossoms in autumn.

Leucopogon lanceolatus, a large bush, with numerous harsh leaves, growing along the sea-shore, with some other smaller inland shrubs of the same tribe, produces very small white berries of a sweetish and rather herby flavour. These are promiscuously called white or native currants in the colony. There are in the mountains some dry red-berried shrubs allied to this, the fruit of which may serve to allay hunger, but it is too disagreeable to be eaten under other circumstances.

Oxalis microphylla, yellow-flowered sorrel. This little plant, which displays its lively yellow blossoms on almost every grassy spot in the colony, and has acid leaves, in form resembling the leaves of clover, is very pleasant, eaten raw, to allay thirst; and made into tarts, it is almost equal to the berberry.

Casuarina torulosa, the she oak. The young fruit and young shoots afford an agreeable acid by chewing, which allays thirst.

Leptospermum lanigerum, the hoary tea tree; *Acacia decurrens*, the black wattle; *Corræa alba*, Cape Barren tea. The leaves of these have been used as substitutes for tea in the colony, as have also the leaves and bark of *Cryptocarya glaucescens*, the Australian sassafras.

I do not think it necessary to enter upon any description of the barilla shrubs (*Atriplex Halimus*, *Rhagodia Billardieri*, and *Salicornia arbúscula*), which, with some others, under the promiscuous name of Botany Bay greens, were boiled and eaten along with some species of sea-weed, by the earliest settlers, when in a state of starvation. The thick young shoots of some of the humbler species of *Salicornia* would, no doubt, like those of the *Salicornia ánnua* (glass-wort, or marsh samphire of England), be serviceable for pickling.

ART. III. *Remarks on the Advantages of having a Reserve Garden.*
By Mr. ROBERT ERRINGTON.

A RESERVE garden is a department which, in my opinion, is a very necessary appurtenance to every country seat of consequence: I can only wish the subject had an abler pen. Nevertheless, I am somewhat encouraged to undertake it, not only from your request, but from the circumstance that little has been written on such gardens, at least, as far as I am aware: and this paper, although furnishing nothing particularly new, may, perhaps, draw forth remarks from others of longer experience and more scientific acquirements than myself, who will be able to handle the subject to better purpose.

Any one who is acquainted with the various operations necessary, through the year, in the routine of general gardening, will, I make no doubt, readily admit that the proper grouping, or placing, of plants and flowers, with reference to their cultivation, is of the greatest importance in facilitating business; and also in conducting the various processes requisite with success: according to the old maxim, "Business well planned is half done."

The purposes to which a reserve ground may be applied are very numerous; and I will first enumerate such descriptions of plants as should always gain admittance there, as far as I can call them to remembrance. Choice annuals, perennials, and various tender plants for planting in beds or masses, as well as for the general decoration of flower borders, to be propagated and cultivated, and accelerated or retarded, as may be required, so as to produce a long line of succession, as well as a continual gaiety in the decorative parts of the grounds. Besides this, the reserve ground is useful for rearing American plants, both for planting beds and borders, for forcing early flowers where they are desired, for keeping pot plants of various kinds from the house during summer, such as some of the New Holland tribes, the *Ericææ*, the camellias, the *Cáctææ*, the *Geraniææ*, &c. Also for pots of lilacs, honeysuckles, peaches, cherries, strawberries, &c., for forcing; and for the cultivation of violets, lilies, and other scented flowers, to please the ladies in the gloom of winter; together with many other plants which I cannot now think of, but which would soon find their way in the reserve garden when once such department was established, to the great relief of the borders of the kitchen-garden and slips, where such plants are generally found scattered in all directions.

Bulbous roots of various kinds, which have been forced, may be here brought round again in the reserve garden by proper care and cultivation; and such of the Cape bulbs (as many of the *ixias*, *sparaxis*, *gladioluses*, &c.) as will grow out of doors in protected situations may be here cultivated to some extent, for flowering in long succession in the houses. *Rhododendrons*, *azaleas*, *kalmias*, and other choice bog plants, may also be raised from seed, and transplanted and cultivated here, both for decorating the grounds, and for furnishing abundance of nice flowering plants for forcing purposes: by such means the greenhouse, conservatory, or show-house, as well as the flower-baskets, &c., in the drawingroom, may be kept constantly supplied with abundance of showy, choice, and scented flowers, from December all through the spring. At the moment I am writing (Jan. 6.), I have abundance of lily of the valley, in pots, in beautiful bloom; and which I have had continually since the early part of December; Neapolitan violets also, in frames, I have had

continually from the beginning of October. Hyacinths, narcissuses, and tulips, from Christmas : lilacs in pots, beautiful little bushes crowded with bloom ; rhododendrons, azaleas, sweetbriars ; roses, the moss, provins, Smith's noisette, and sanguinea, just coming into flower ; together with sparaxises, ixias, gladioluses, and other Cape bulbs, and Azàlea índica, just beginning to bloom ; and the above articles I shall continue to have constantly in abundance for weeks to come.

I do not mention this for the regular practical gardener's notice, but for the amateur in a small way, or the tyro in horticulture ; and therefore I trust this digression will be excused. To return to my track, I must add also, that a great abundance of all the best herbaceous plants, especially the taller and later kinds, should be grown here in pots, to succeed others in the changeable flower-garden ; as well as for general purposes of decoration, wherever a blank may occur in any of the beds or borders ; and, in the course of this paper, I shall just notice a good method of managing this last group. I have thus enumerated a few of the leading purposes to which a reserve ground may be applied ; but there are many other plants that will gain admission to it, which I cannot at the present moment remember. Some of them may, however, occur to me as I proceed, and I shall just notice them as they do, although out of their proper place. There ought to be, if possible, a propagation pit or two in one corner of this ground ; or, at any rate, there should be two artificial climates for the striking of cuttings of various fancy plants, and the raising of annuals and of choice things in general. These pits should have a perfect command of dry and moist heat, together with good shading, either by canvass, or other materials proper for the purpose. Cold frames, with proper shading, will also be in request for keeping seedling Americans in ; also for many of the young stock of *Ericæ*, the New Holland plants, camellias, &c., which may be considered too small, and not established sufficiently to withstand the vicissitudes of the natural climate in the turning-out season : here, with prepared bottoms, as will hereafter be described, occasional shading, and proper attention generally, as to water, &c., they may bid defiance to the worms below, and to the storms above.

Before I endeavour to convey my ideas, as briefly as possible, as to the disposition of the ground in the reserve garden, amongst the various groups of plants, I will just make a few preliminary observations on the effects of light and shade respectively on plants in general, more especially on house plants ; tending to show the necessity of providing a partial shade for those which may be placed out of doors in the summer season. Those who are practically acquainted with the management of green-house

plants will, I think, agree with me, that it is desirable, on many accounts, to get out the more hardy kinds of *Ericææ*, *Epacrideæ*, *Cactææ*, *Camelliææ*, and the New Holland tribes (of course with some exceptions to each); provided some kind of guarantee can be given, that they can be protected from the injury arising from excessive rains, and also from the discolouring effects of the scorching and unbroken rays of the summer's sun, and also from the injurious effects of stagnation of water, and from the workings of the earthworm.

I am aware that some of our very best cultivators of the above tribes are against setting them out of doors at all; amongst the rest, Mr. M'Nab, if my memory serves me faithfully, is of this opinion; and such authority is certainly of the very highest character: however, I can only say that, although I know very well that the *Ericææ*, and, in fact, all the above-named tribes, may be kept in most excellent health in-doors; yet the wood made in-doors is, after all, very different in character, generally speaking, from that made out of doors, at least in most plants with which I am acquainted. This arises, in my opinion, from the out-door plants having a greater quantity of light in the aggregate, and also from a more perfect circulation of air, tending to produce shorter-jointed wood, — a pretty good criterion of the principle of fructification. Let any one observe the change that takes place in healthy *Cactææ* soon after they are placed out of doors, say in July; the pale green of their foliage is progressively changed into a brownish or purplish hue; and the axis of the frond, in the old speciosus, I have frequently observed to turn quite purple; indicating, as I imagine, highly increased secretions from the descending sap, or true blood of the plant. Their buds, also, soon become stouter and more woolly; the whole plant gets more compact, and almost, or quite, ceases to elongate. It is a fact, I think, and one of some importance in this argument, that the interior of hot-houses, whether of wood or metal, is always inferior to the natural climate in respect to light; I mean as to the average. A hot-house, for aught I know, may be quite equal during a hot sunshine, but at other times, I make no doubt, considerably inferior; and, however some men may dislike theories, I suppose they will admit that light is the chief agent in fructification. However, assuming that any of the above tribes must be put out in the summer, a place should be provided for them; and for that purpose I should recommend some beds in the reserve ground to be so prepared as to receive a slight shade in excessive sunshine, and also to prevent the depredations of the worms: and if the plant cannot be shielded effectually from the heavy rains of summer, care should be taken, by careful drainage, that the

water may pass off immediately, and not lodge so as to stagnate in the ground.

Having now stated the objects of, and some of the arguments for, a reserve garden, I will proceed to describe how I think it should be situated, and how the ground within it should be appropriated. As to its size, that, of course, will depend upon the garden or ground to which it is an appendage; for the country mansion of a nobleman, where every thing is in first-rate style, and of the fullest extent, and where no reasonable expense is spared, I should think an acre of ground not too much; while for second or third-rate places, with which the country abounds, from half to a quarter of an acre might suffice. If there should, in either of the above cases, be at any time surplus ground, which the proprietor could not keep filled with the flowering plants, it would form an excellent situation for many of the tenderer crops of the kitchen-garden: however, this should be a matter of necessity, and not choice; as the ground should be so prepared for raising fine flowers, that it would be a pity to exhaust the soil with common vegetables.

As to situation, several points are concerned in deciding that; such as convenience of water, and proximity to the forcing-houses and frames, and also to the potting-sheds. As to the first of these, it should either be very near to good soft water, or, what would be greatly preferable, have a tank permanently supplied in its centre. This ground would have so close a connexion with the frames and houses, at all times, that it would not be well to remove it far from them; it should also be near to the general compost yard, or else be provided with composts of its own, which would be quite as well; and, if possible, a dung-water tank should be contained within its precincts. I just named before, that there should be a pit or pits in it; I must now add, that it should have a low propagation house, with a fire flue or hot-water pipe all round; the front and ends paneled, of course, for evaporation. This pit or house should have a bark bed in it; together with shelves, &c., for propagating and rearing choice plants. This, with two or three other pits and frames, would be sufficient for the largest establishment: one of these pits should also have a flue or pipe round it; and the others might be entirely without any kind of heating apparatus. The pit with flues round it might be occupied in winter with half-hardy plants, for flower-garden purposes, &c.; and in spring and summer for forcing flowers, and receiving fresh-potted cuttings, and also seedlings of various kinds, from the propagation house. The other pit or pits would be in continual requisition through the spring for rearing choice annuals, and other little things; and in winter, for preserving choice and tender annuals, biennials, and perennials; together with a large stock of late-

struck cuttings, of various little knick-knacks for ornamenting the flower-garden through the ensuing summer : all these should be in stone pots. All the structures should have wooden shutters, which, in my opinion, are not sufficiently in use for general purposes ; as they are extremely desirable as to economy, and more particularly as to their use in preventing the necessity of strong fires.

Now, as to the disposition of the ground : supposing the form of the whole plot to be a parallelogram, or an exact square, with the pits, &c., at one end, and a reservoir or tank in the centre, the rest of the ground might be formed into four compartments or squares, with a main walk of 4 ft. in width all round the exterior, and two other walks intersecting each other at the water tank, in the centre, of 4 ft. in width also. I should then divide each of the squares into parallel beds, three of them for flowers and plants of various kinds in soil : these beds should be 4 ft. wide each, and the alleys of a sufficient width to allow a wheelbarrow to get up between every two beds ; this would require them to be about 2 ft. 4 in. ; but if this were thought too much ground to spare for an alley, a couple of small barrows might be kept specially for this garden, which would run up an alley 2 ft. in width. The other squares, which should be the warmest (if there were any difference between them), and should be at the end next the houses or pits, I would also divide into small beds (running in different directions, to furnish different climates as to light and shade) for holding pots ; some of these beds should run north and south, and others east and west : along the centre of the alley between every two beds in this pot ground, I would form a slight trellis of plain stakes, crossing each other thinly in the diamond or any other form, so that the meshes should be about 9 in. square ; and along the foot of this trellis I would plant some small-leaved plant, as a delicate skreen or shade. One of the most suitable plants for this purpose that occurs to me at present is the *Spiræa bélla*, which, from its habit, would, I think, be particularly well adapted for the purpose ; and, after being twined round every stake, the remainder might be pruned away. The trellis should be just high enough to throw its flickering shade the width of the bed, and no more, when the sun had attained nearly its greatest altitude, say the middle of June, which would be quite enough for all practical purposes. These beds should be 4 ft. wide also, and an alley of 2 ft. 6 in. would be necessary between the side of the bed and the skreen. Whatever plant might be employed for the purpose of forming this skreen, it is absolutely necessary that it should be of small neat foliage, and of thin straggling growth ; and if any one objects to using a plant for this purpose, he may very easily employ thin canvass or bunt-

ing instead; but both these would be more expensive, and would require more attention to keep in order. However, I leave that to my critics, for gardeners are as notorious for disagreement as doctors. The base of these pot beds should be excavated about six inches, and there should be a row of bricks on end on each side of the bed, forming a sound edging; a stone edge would be preferable, but this is not always to be obtained. The edging should rise about three inches above the ground level, and the excavation within should be filled to within two inches of the top with clean sand of any kind. On this the pots may be set, or plunged in it, according to the necessities of the season; and many of the *Ericææ*, the *Epacrideæ*, the *Camelliææ*, &c., would be found much benefited by being plunged in it through all excessively hot weather, as we know by experience that many of these tribes are much injured by a very hot and dry temperature. In the sand the mean temperature would probably not exceed 70° at all times, and the pots would be always surrounded by a feeding medium; whereas in the open air, and on the surface, they are of necessity exposed to a heat of frequently 80° to 90° , and surrounded by dry air, or, in other words, by a robbing medium: so much for plunging.

Having thus delivered my ideas on the establishment of pot beds, and having met, as I conceive, every objection but expense which somehow or other attends every thing we contrive, it remains for me just to observe, that, with all these contrivances some of the larger specimens will perchance suffer at times from long-continued rains, which sometimes occur for days together. I named before, that the very greatest precautions are necessary in potting these various plants, to render their drainage most complete, and to put it out of the power of the worms (if they should chance at any time to get in) to choke the drainage entirely. I have now to recommend, through very wet seasons, the use of slates, tiles, or, what I should prefer, pieces of wood made circular, with a hole for the bole of the plant, which the two semicircles would embrace; and, with the aid of two small pegs stuck by the bole of the plant, the surface of these two pieces of board might be made to present an inclined plane, which would throw off the rain. I should only use these boards in strong necessity, and to plants in large pots, and for that purpose a few would suffice. In a pot ground thus contrived, there would be a variety of aspects suitable for any of these tribes when first brought out of the house; for instance, supposing the *Ericææ* to be brought out, say early in June, and the weather not particularly sunny, the pots might be set in an eastern or western aspect, and, towards the early part of July, might be removed to a northern one, to enjoy the flickering shade of the trellis through the scorching heat of summer. As for the other com-

partments for plants in soil, it would, perhaps, be sufficient, if a trellis, such as described for the pot ground, went along the southern end of each compartment. The north side of these would afford many excellent situations in summer for carrying on all the operations that require shade: some of the beds, prepared with bog or peat earth, might be filled with young American plants, others appropriated to cuttings under glasses, and others to young tender cuttings and seedlings removed from the glasses and pots where they were raised. As for the other parallel beds in the compartments, they should all be well prepared at first, some with one kind of soil, and some with another: however, the majority (say three to one) might be dressed with a compost composed of nearly equal parts of sound yet mellow loam, and vegetable matter (say equal parts of peat and old leaf mould); to these may be added a little sand: but these materials must, of course, be varied according to the nature of the soil of which the garden is composed. A bed or two should be made for growing small neat bushes of American plants for forcing purposes, such as the various azaleas, the kalmias, the rhododendrons, rhodora, &c. &c. These beds should be composed of about three parts of peat, and two parts of light loam; and, by frequent transplanting, a great number of little miniature trees and bushes might be obtained, which would go into small neat pots; this would be found very useful, as Americans, without this precaution, will require large, and unsightly pots, for very small plants. Here, after being forced a season, they may be again transplanted, and brought round for forcing again, if necessary; but more properly for decorating the shrubberies generally.

In some of these compartments, the bulbous-rooted tribes, which had been exhausted by forcing, might be turned out to lay in a fresh stock of sap, with their foliage tied up and taken care of; beds of roses also, of various kinds, coming on for forcing and other purposes; and, in fact, all the articles I enumerated at the commencement of this paper, and many others which I cannot think of at the present moment, would here be found quite at home, with proper soils, climates, water, and every thing necessary for their proper cultivation, close at hand, forming a complete and systematic branch of horticulture within itself. One thing I forgot to observe in its proper place (*viz.*, as connected with the pot compartment), that there are many herbaceous plants, as well as, perhaps, annuals, and hot and greenhouse flowers, which are too tall when grown in the ordinary way for some kinds of flower beds; such are the various tall phloxes, aconitums, delphiniums, buphthalmums, helianthemums, asters, and many others which do not occur to me at present; these, too, are, many or most of them, late-flowering tribes, and therefore

are well adapted to fill up blanks in the changeable flower-garden. Now, if a good stock of these is potted every spring in 32-pots, and plunged in a bed in one of the compartments, and on the north side of one of the screens, they would come in remarkably well for the above purpose; and many a fine late aster, which is now excluded from flower beds, on account of its great height, would be by this plan considerable dwarfed, and rendered fit to remove at any period that might be required. The bed where these pots were plunged should be composed in a great degree of half-decayed leaves, and some chopped light sod, or any thing of a flaky nature; they would then move in the heat of summer with large flakes or balls of the soil adhering to the roots through the pot, and would scarcely lose a leaf. In regard of the buildings connected with this garden, it would be absolutely necessary to have a shed or two in one corner of them, or near them, and I should like to recommend a little rest-house for bulbs of all kinds and dahlias; in which also might be a stand for exotic seeds and annuals, and other fancy things. Now, as the cultivation of Cape bulbs is on the increase, I conceive such a place very necessary; and there are many other things which would class with them as to rest and temperature, such as some of the Nat. Ord. *Gesneriæ*, the *erythrinæ*, and the *Amaryllidæ*, with others, all requiring similar atmospheric condition, &c.

I have now gone through all that is necessary to render a reserve garden tolerably complete, and trust that any inaccuracies which may be found in this paper may be pardoned; and I can only hope, in conclusion, that its merits may overweigh its defects.

Oulton Park, Jan. 20. 1835.

ART. IV. *Remarks on Grafting, and more particularly on Summer Grafting.* By WILLIAM THOM, Esq., Surgeon, Annan.

IN inserting the graft, I operate nearly in the same manner as for budding, and defer heading down the stock or branch till an after period. I make an incision of the form of the inverted capital L, thus Γ , and I carefully raise up the angular piece of bark with the handle of a budding knife, leaving the bark on the opposite side undisturbed. I then pare the lower end of the scion, to the extent of an inch or an inch and a half, upon one side, into a thin wedge shape, and slip it gently in beneath the raised bark, taking care that the side which lies next the undisturbed bark of the stock be perfectly straight, so as to fit accurately to it. Indeed, the more effectually to insure the absolute contact of the inner bark of the scion and of the stock, I fre-

quently take a minute paring of outer bark from off that edge of the scion which is to be applied to the unraised side of the bark of the stock. The upper end of the scion, which should contain one eye only, or, at all events, not more than two, is allowed to project beyond the wound of the stock, while the inner bark of each will be applied to each other. This latter circumstance is of great importance, as it is between these two portions of bark that the union takes place. Accordingly, it is a matter of the utmost moment that they should be kept in apposition, which can only be done by the proper application of the ligature. This ought always to be applied, by turning it in the direction which will tend to approximate the edge of the scion to the edge of the undisturbed bark of the stock. Should the ligature be turned round in the reverse direction, it may cause the scion to be shifted from its proper place; a circumstance to be most cautiously avoided, since the smallest fissure intervening between the inner bark of the stock and inner bark of the scion, will very likely prevent union, and failure in the operation will, in all probability, result from thus mismanaging the ligature. The fabric of the ligature is not of much importance.

The Management of the Stock. — When, from the pushing of the bud, it becomes evident that the scion has adhered, the stock is partially beheaded, say to the extent of two thirds or three fourths of its branches and foliage; but not to a greater extent, lest the circulation of the sap, or vegetative process, should be impeded; but when vegetation in the scion becomes vigorous, then, and not till then, are all the leaves and branches of the stock gradually and cautiously removed: promptitude at this period is more dangerous than delay.

Season for Grafting. — Spring is the season in which grafting has usually been performed; and I apprehend that few gardeners or nurserymen have at all adopted the more convenient practice of grafting with scions of the current year's shoots, during the summer season, as pointed out by Mr. Knight several years ago.

I am not aware of the earliest period of summer at which the operation of grafting may be performed, but I am at present conducting a series of experiments to ascertain the fact. Circumstances induce me to imagine that young wood, of many varieties of fruit trees, will be sufficiently ripe sooner than the period at which I have been accustomed to use it. It is certainly of great importance to perform the operation as early in the season as young wood can be procured, as I find that scions inserted in June have greatly the advantage of those in July.

Last year, 1834, on the 26th of June, I inserted scions of young wood of the Passans de Portugal pear, upon the branches of a well-established autumn bergamot, and on the 2d of July I inserted a few more. The shoots of the former measure 2 ft. 4 in.,

whilst those of the latter are only 17 in. Again, the utmost limit attained by the longest shoots of grafts inserted in the spring, of the same variety, and on the same tree, was 3 ft.; thus outstripping the June grafts by only 8 in.

Reasoning from the above experiment, no person would infer that grafting in June is preferable, in every instance, to grafting in March or April; but it is certainly consolatory to know, that work which has been neglected during the hurry of spring, or omitted from lack of opportunity of procuring grafts of the desirable varieties, may be accomplished in summer, with such a very trifling decrease in the growth of the shoot during the season.

Thus, also, from a scion of any rare or valuable variety, of only two or three eyes, procured in the spring, scions of the young wood may be taken in June or July, so that the propagator may have some young trees fit for removal, or the market, in the month of November. The scions of young wood of the pear above mentioned were produced by grafts that had been inserted as late as the 7th of April preceding.

I make no difference in my method of operating, whether the scions be of the last or of the current year's growth. In the latter case, I sometimes leave a small fragment of leaf adhering, as in budding, and at times denude the scion of all except the leaf-stalk; but have not perceived any difference in the result, which is almost invariably successful.

Annan, May 25. 1835.

ART. V. *A Series of Designs for laying out and planting Flower-Gardens, with Remarks on each by the CONDUCTOR.* Design 3., by TYRO.

“THE first observation Tyro would take the liberty of making on the plan of a garden, VII. 726, 727. fig. 130., repeated in p. 238, 239. of the current volume, is, that there seems no reason for the design of the walks; and, more particularly, that the sweeping line of the walk at the right hand of the house is not accounted for. Tyro would therefore thicken the planting in that part, and at other turnings, in such a manner as that, when approaching the house, no other direction should appear more obvious than that offered by the walk. As the garden appears of greatest extent diagonally from the house, he would leave it open in that direction; and from that principal vista let in a variety of smaller glades among the beds of flowers and taller shrubs, communicating in such a manner as to allow of easy access to the different parts, without any diminution of the apparent intricacy.

“ Such excellent ideas for distribution of plants, according to the arrangement most agreeable to proprietors, are to be found in different numbers of the Magazine, that it would be, to say the least, unnecessary for Tyro to offer any suggestions on that subject.”

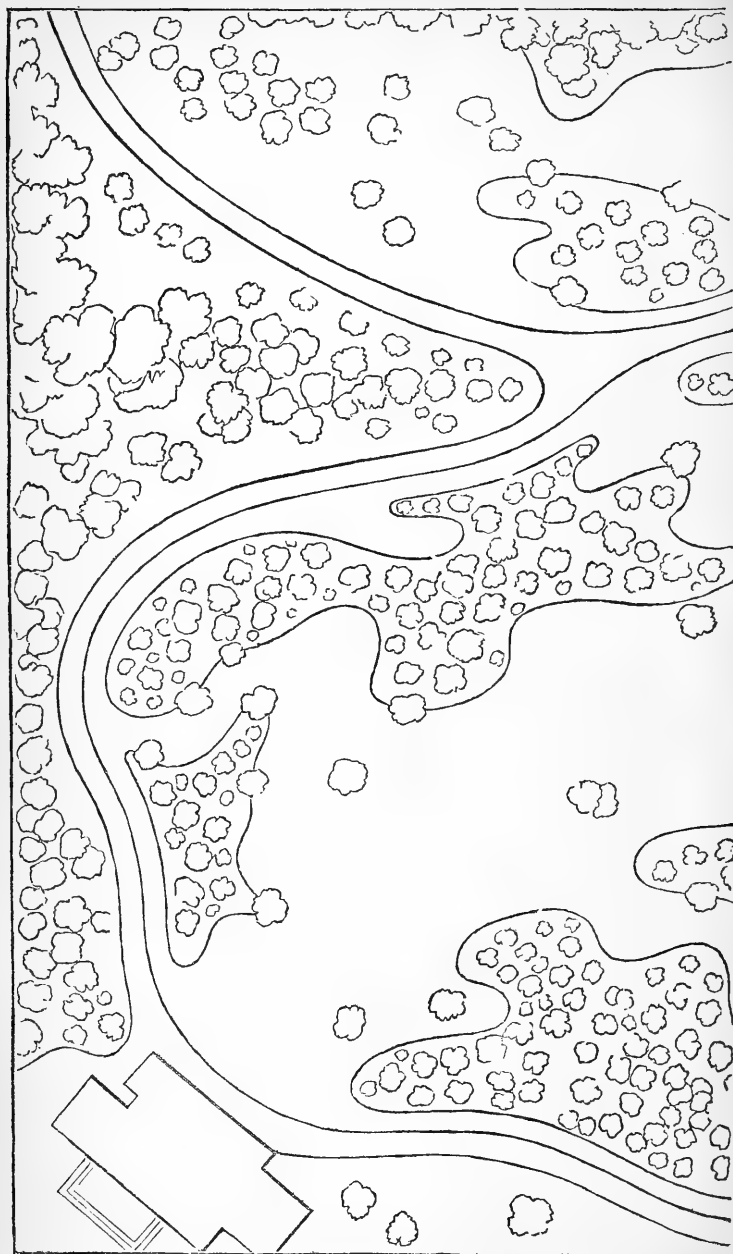
The plan given by Tyro (*fig. 50.*) is unexceptionable in its kind; it has less of the flower-garden character on the face of it, than the plans of Floretus, or of Lancastriensis; and, indeed, from the size of the masses it contains, it is better adapted for flowering shrubs and low trees than for flowers; though these could be planted along the margins of the beds.

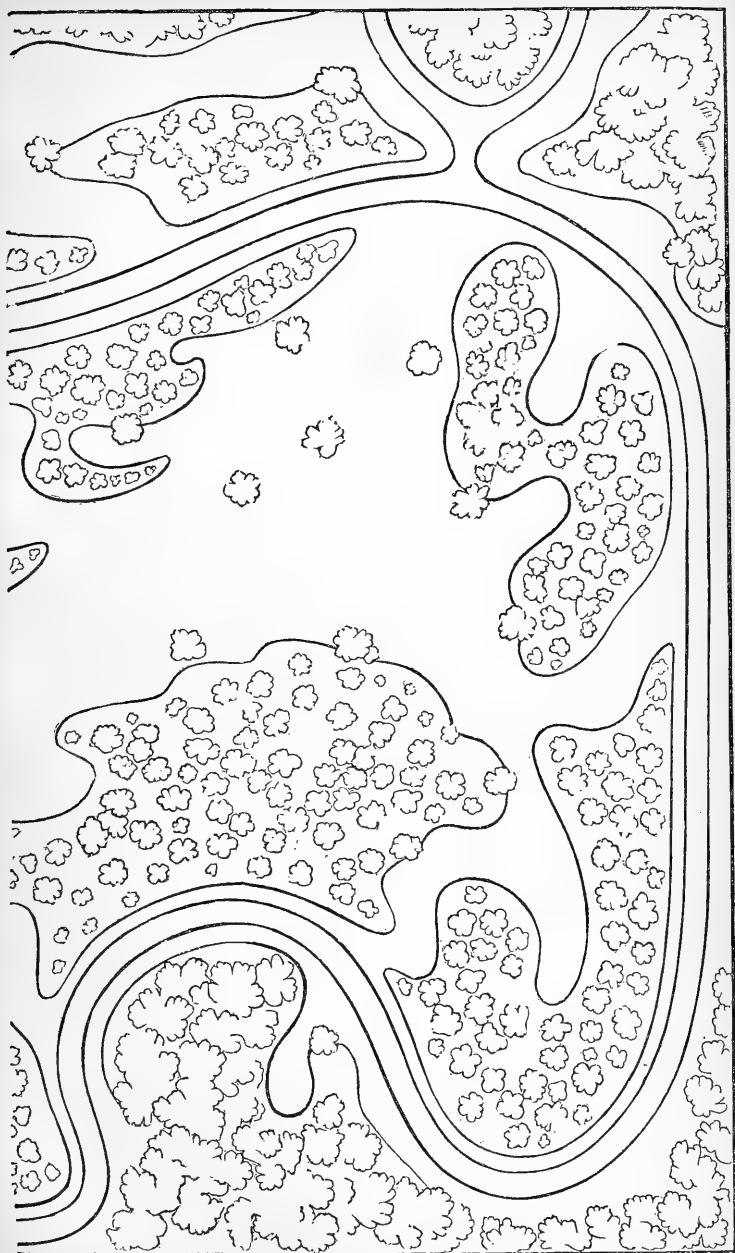
To grow flowers in perfection, however, and at the same time to show them to the greatest advantage, viz., in masses of the same kind, they must be grown in beds by themselves. These beds, in the case of a regular symmetrical flower-garden, will produce most effect when not intermixed with beds of shrubs; because these beds of shrubs prevent the eye of the spectator from discerning the symmetry of the figure, or flower-garden, of which the beds form the component parts.

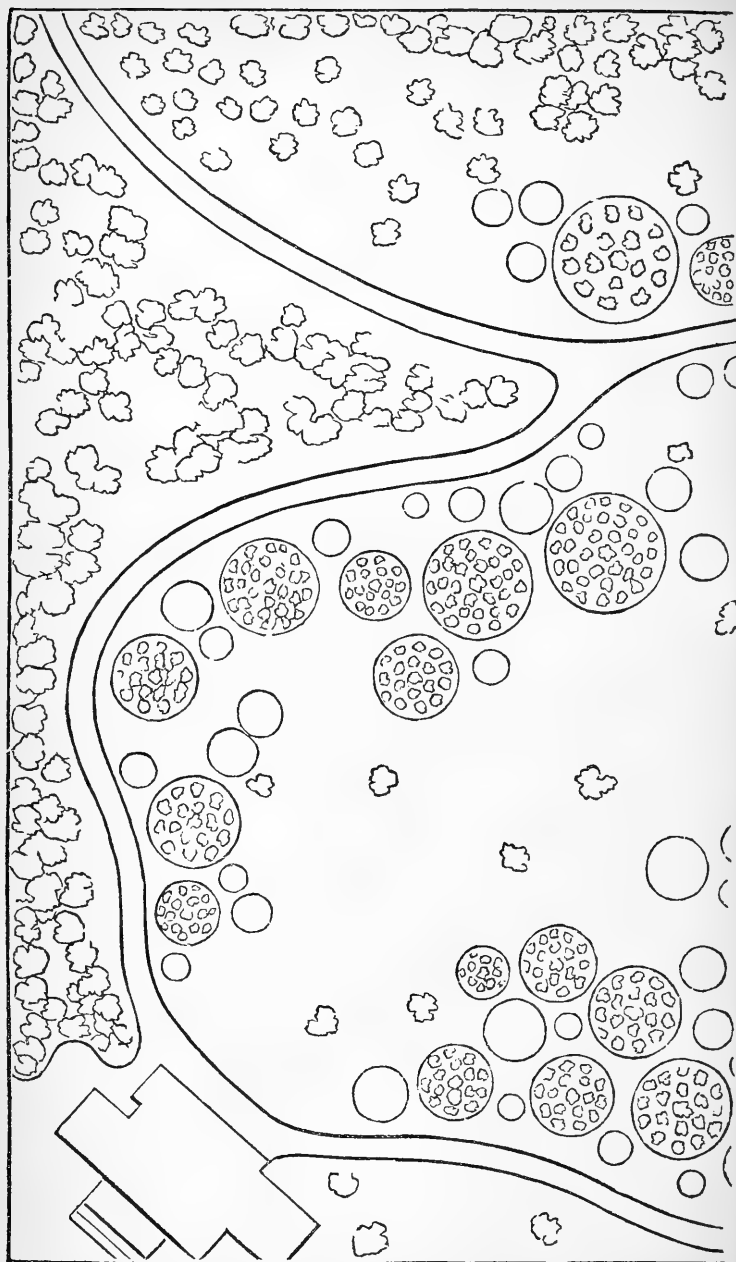
Where the object is not symmetry, but irregularity, variety, and intricacy, the beds of flowers, and beds of flowering shrubs, may be intermixed; and this sort of disposition produces, in our opinion, the greatest beauty of which an irregular flower-garden is susceptible; provided always, that the beds are properly planted.

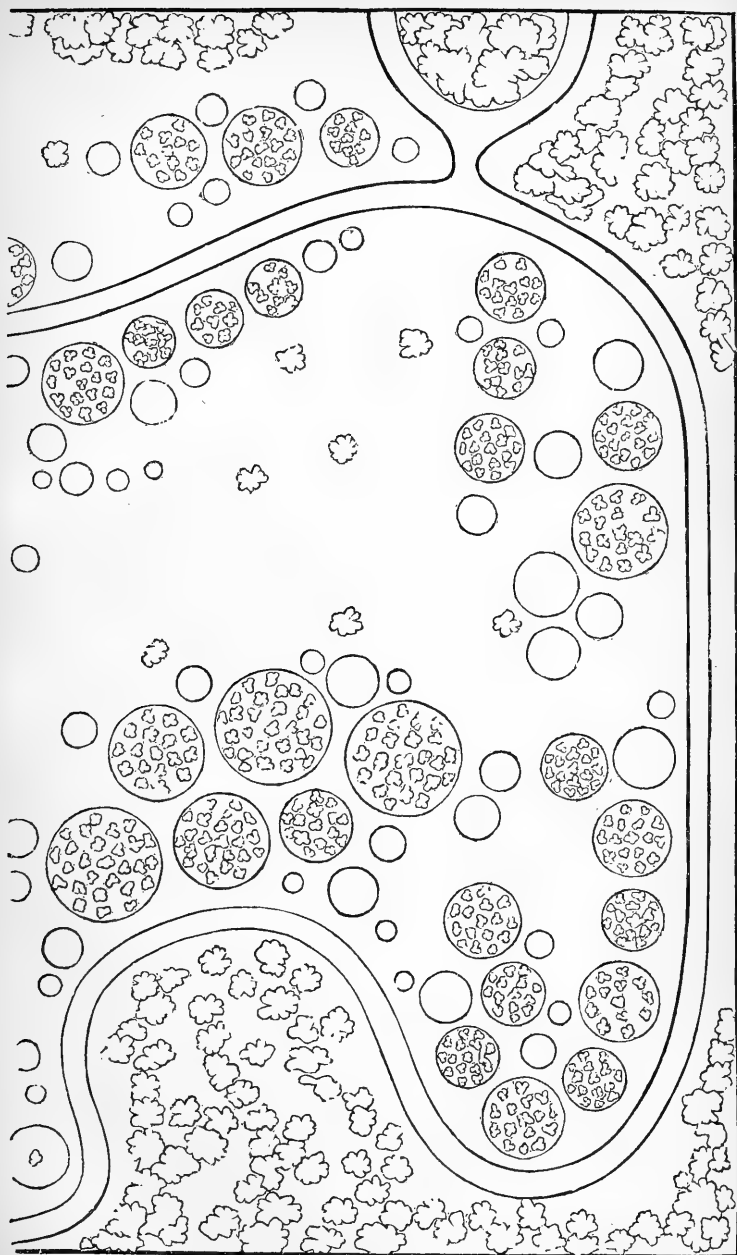
In *fig. 51.* we have shown how the general effect aimed at by Tyro may be produced with what we should call a maximum of beauty in the details or component parts. The larger beds, amounting in number to about forty, are supposed to be planted with flowering shrubs; and for the most part, each bed to be limited to either different varieties of the same species, or to different species of the same genus. The smaller beds, amounting to upwards of seventy, we would plant chiefly with flowers, either of one species or variety, or with the different species, or species and varieties, of one genus. In certain of the flower beds, however, we would have changes made; for example, bulbs during winter and spring, should be succeeded by annuals during summer and autumn. In the margins of the beds of shrubs, we would have no flowers whatever, for even bulbs in such margins have a tawdry appearance; and they by no means harmonise with the shrubs, either in a botanical or in a picturesque point of view. Botanically, they do not harmonise, because most bulbs are monocotyledonous; and they do not form a picturesque whole, or harmony with shrubs, because their beauties do not admit of being depicted by the same style of art as those of shrubs do.

It will be observed that all these beds, whether large or small, are circles; and that they are never nearer to the walk, or to one









another, than 3 ft. The simplicity of the circular form is a great recommendation to it, both in point of beauty in itself, and in regard to setting off the flowers to advantage, each circle being as it were a nosegay; it is besides the most convenient form for culture, and for renewing the soil. The different diameters of the circles, and their different disposition on the turf, will produce a variety of intricacy and outline that cannot be attained by any other means whatever. To produce the greatest intricacy from objects of the greatest simplicity, is a most agreeable and satisfactory kind of beauty; whereas to produce intricacy and variety by an endless number of anomalous shapes, is never entirely satisfactory; for the question still recurs, why was one modification of irregularity adopted rather than another? For this reason, it may be laid down as a principle, that irregular forms are never satisfactory when planted entirely with flowers. When planted with flowers and shrubs, or with shrubs only, the entire form is never seen at once; and the intricacy and variety of the outline being all that occupies the mind, as far as form is concerned, the result is generally a pleasing one.

If the foregoing remarks are founded in truth, gardeners will do well, when they form irregular beds in flower-gardens, always to have both shrubs and flowers in them, to such an extent as that the former may prevent the entire outline of the figure from being seen at once.

They will also do well, when the beds which they form in flower-gardens are either regular figures, or when they combine with other figures so as to form either a regular or a symmetrical whole (the two being quite different), to plant only flowers; unless the beds are large; and, if they are large, then to plant only shrubs.

A third point deserves their notice. When beds of one form only are employed, and these forms are of a great many different sizes, they must be connected by a common principle. In the design, *fig. 51.*, the principle is that of no one bed being nearer to another than 3 ft.

In general, circular beds of different sizes, irregularly disposed and connected together, as shown in *fig. 51.* will, in the hands of gardeners who are not artists, form a much more satisfactory flower-garden than can be done by the use of irregular shapes only, or by irregular shapes and regular shapes mixed together, which are almost always bad.

One of the most common errors in ornamental gardening is that of mixing herbaceous flowers with shrubs and trees. If we were called on to point out what we consider to be the greatest defect in almost every garden or shrubbery in England, we should certainly point to this; but we shall recur to the subject in a future Number.

ART. VI. Notices of remarkable Trees and Shrubs in different Parts of England. By various Contributors.

EXOTIC Trees and Shrubs which have stood the open Air, during the last three Winters, at Coed Ithil in Monmouthshire, the Seat of R. H. Fleming, Esq. R.N.—*Aster argophyllus*, *Corræa álba*, *Pittósporum Tobira*, *Callistemon rigidus*, *Hakea acicularis*, and *Eucalyptus robusta*.—*R. H. F., and Martin Mayes, Foreman of the Bristol Nursery. March 26. 1935.*

Acacia dealbata, planted in the open garden in May, 1834, and then about 6 in. high, measured, at the end of the season, upwards of 11 ft. high, with abundance of long lateral shoots, and a stem of considerable thickness. It was protected, about half way up its stem, with spruce branches on the approach of winter; and the severe frost of the 8th of January, in the present year, killed the plant down to the protected part.—*A Constant Reader. March 21. 1835.*

Acacia lophantha.—There is a plant of this species growing luxuriantly, without the slightest protection, to the height of 40 ft., at Abbotsbury Castle, on the Dorset coast, which ripens its seeds in the open air; and there is another plant of the same species, 20 ft. high, also growing without any protection, in the grounds of E. Pendarvis, Esq. M.P., Cornwall.—*L. W. D. Dec. 7. 1834.*

Fuchsia.—At Ponsonby Hall, the seat of E. Stanley, Esq. M.P., near Whitehaven in Cumberland, there is a hedge of *Fuchsia gracilis*, which is 10 ft. high, and which has stood eight years without the slightest protection. In the same grounds there are a Portugal laurel 24 ft. high; and a standard *Eriobótrya japónica* 8 ft. high, quite unprotected.—*E. S. Dec. 2. 1834.*

Eucalyptus perfoliata.—In 1833, towards the close of the year, I received from Van Diemen's Land some seeds of the *Eucalyptus perfoliata* (I believe). Several plants were raised from these seeds; one of which I planted out in a south border, with a small mixture of peat earth, in May last year. In the autumn, it had grown to the height of 6 ft. at the least; and, as it was too tall for me to house, I left it to take its chance. The first sharp frost, early in January, injured the head and some of the tips of the lateral shoots severely. It is now pushing at almost every pair of leaves; and even from the stem, which, to the height of 2 ft. from the ground, had been quite denuded of leaves and branches. The garden is protected by a paling only, and is quite exposed to the north and east winds.—*S. T., jun. Welling, near Dartford, May 7. 1835.*

Trees at Wimpole in Cambridgeshire.—The soil here is a stiff clay (or gault, as termed here), without one particle of sand in it; but some trees thrive well, notwithstanding: in particular, the common maple. There is one tree of this species, which stands in a grove near the garden gate, which, at 1 ft. from the ground, is 10 ft. in girth, with a bole 40 ft. high, without a branch: it then divides into two, its top being 25 ft. in height. There are several fine elms, one called the sisters, in front of the mansion, 30 ft. in girth at 1 ft. from the ground; at 6 ft. high, it divides into two arms, the height of which is 70 ft. to the extreme top branch. The old trees here were planted in the reign of Queen Anne. The oaks have not been much planted till within the last forty years, but they grow freely: one of the largest that was planted by me, twenty-six years ago, is, at 1 ft. from the ground, 4 ft. 9 in. in girth, and 45 ft. high; and many others are of nearly the same size.—*Jas. Dall. Wimpole Gardens, April 6. 1835.*

Oxford.—There is a weeping variety of the common horsechestnut (*Æsculus Hippocástanum*) at St. John's College, Oxford, 60 ft. high; with a trunk 3 ft. in diameter at 1 ft. from the ground, and with branches covering a space 50 ft. in diameter. There is also a fine thorn (*Cratægus Oxyacantha*) in Christ Church meadow, above 30 ft. high.—*W. B. March, 1835.*

Quercus Flex.—At Golden Grove, Pembrokeshire, the seat of the Earl of

Cawdor, there is an evergreen oak, about a hundred years old; which, though exposed to the sea breeze, is in a very flourishing state. It is above 70 ft. high, its trunk is 2 ft. 6 in. in diameter, and its branches extend over a space the diameter of which is 50 ft. It is a very handsome tree, with a regular head; and it grows in loam, on limestone. — *C. Jan.* 1835.

Trees in Bagshot Park. — The deciduous cypress mentioned to you by Mr. Lambert, and from which he had a figure taken when in fruit, stands in the garden of Mr. Evans, a blacksmith, opposite to the King's Arms Inn, Bagshot. It has been planted about 60 years, and is about 35 ft. in height; the diameter of the trunk, at one foot from the ground, is 28 in.; the branches cover a space of about 30 ft. in diameter, the head is irregular and spreading; soil, a black sandy peat; and the substratum, gravel rather wet. This tree flowers about the end of May, or the beginning of June, and it produces perfect cones most seasons. It appears to me to be an intermediate variety between the common kind and *Taxodium distichum pendulum*. Perhaps it is not generally known that the deciduous cypress will strike root in water. Mrs. Evans has repeatedly cut off shoots, put them in water, and placed them on the mantel shelf for ornament (in the summer months): they soon callosed over, and produced roots some inches in length, the water being changed about once a week. There are several fine specimens of silver firs in Bagshot Park; but the one most worthy of remark is that noticed in Vol. IV. p. 433. Its height is now about 110 ft., and the diameter of the trunk a foot from the ground is 4½ ft.; and I suppose it to be about 150 years old. About fifty years back, nearly 15 ft. were blown off this tree by a high wind, in consequence of which the immediate top is close and bushy; but below this the branches are few and irregular: there is no branch up to 60 ft. from the ground.

The Cornish elms, I suppose, are about 70 years of age; the maximum height is about 70 ft.; the trunks 3 ft. 6 in. in diameter, and the spread of the branches about 40 ft.; the heads are regular and upright in growth, and there are no branches to about 30 ft.; soil sandy loam, substratum sand. They grow very fast when young; there are specimens here of seven years' growth 20 ft. high. — *Andrew Toward. Bagshot Park, May 8.* 1835.

Taxus baccata. — There are two yew trees in Gowsworth churchyard, in Cheshire, which are said to have been planted in the time of William Rufus, and to be the oldest in England. — *H. Leicester, Dec.* 1834.

A'lnus glutinosa. — At Elvaston Hall, Leicestershire, the seat of the Earl of Harrington, there is a common alder, 89 ft. high, and 2 ft. 7 in. in diameter, at a foot from the ground. The bole carries up very nearly the same thickness above 50 ft. before it throws out a branch. — *H. Leicester, Dec.* 1834.

Ilex Aquifolium. — There is a common holly in the woods of Lord Walsingham, at Merton in Norfolk, 60 ft. 4 in. high, and 3 ft. in girth, the pendent branches of which are 22 ft. long. There are several other hollies in Merton Wood, of nearly equal dimensions, particularly one 57 ft. 2 in. high, and 3 ft. 8 in. in diameter at a foot from the ground, and 3 ft. 3 in. at 5 ft. from the ground. There are also some remarkably fine old oaks in Merton Wood, and a very large lime in Merton Park. — *T. D. G. Dec.* 1834.

Laurus nobilis. — The largest sweet bay I ever saw is at Margam, the seat of J. P. Talbot, Esq. M. P., about 12 miles from Swansea. It is 61 ft. 6 in. high, and forms a magnificent and compact bush. — *L. W. D. Dec.* 7. 1834.

Myrtus communis. — At the Willows, near Swansea, were a few years ago two myrtles of nearly the same size, the largest of which, in 1815, measured 15 ft. in height, and 39 ft. round the extent of its branches. These myrtles were remarkably compact handsome trees, and were covered every year with a complete sheet of blossoms: they were planted in the open ground in 1777 or 1778, and never had the slightest protection. In 1828, the circumference of the branches of the larger myrtle were found to have increased to 90 ft.; but the tree was become ragged, and had completely lost its beauty; in a short time after both trees decayed so rapidly, that it was thought advisable to cut them down. — *L. W. D. Swansea, Dec.* 7. 1835.

Salisbùria adiantifòlia. — At Leigh Court, the seat of P. J. Mills, Esq., at Kingsweston, near Bristol, there is a fine specimen of this tree as a standard, 40 ft. high, with a trunk 5 ft. in circumference, and branches covering a space 30 ft. in diameter. There is another specimen of this tree at Longleat, the seat of the Marquess of Bath, 38 ft. high, but these are both excelled by that at Purser's Cross, near Fulham, which is above 60 ft. high.

Quercus Cérvis dentàta. — A fine specimen of the Lucombe oak, 80 ft. high, with a trunk 7 ft. 6 in. in circumference, and branches covering a space 48 ft. in diameter, is now growing in the grounds of R. Bright, Esq., at Ham Green, in Somersetshire.

Liriodéndron Tulipífera has attained the height of 96 ft. at Hestercombe, near Taunton, the seat of Miss Warre. The trunk is 8 ft. 6 in. in girth at 3 ft. from the ground, and 6 ft. 9 in. at 6 ft. In the same grounds there is a cedar of Lebanon 62 ft. high, with a trunk 12 ft. 6 in. in girth; and a red cedar (*Juniperus virginiana*) 42 ft. high, and 3 ft. 10 in. in girth. — *Wm. Young. Elm Cottage, Taunton, Nov. 25. 1834.*

Rhododéndron pónticum. — At Maeslaugh Castle, Radnorshire, the seat of W. Wilkins, Esq., there is a most remarkable specimen of this plant. It is 21 ft. high, and its branches cover a space 105 ft. in circumference! It is grown without bog earth, and flowers freely every year. — *James Alexander, Gardener to W. Wilkins, Esq. Dec. 1834.*

We find from the return paper filled up, and sent to us by Mr. Alexander, that there are many other fine trees and shrubs at Maeslaugh Castle; particularly a *Liriodéndron Tulipífera*, 73 ft. high, with a trunk 2 ft. in diameter, and the space covered by the branches 36 ft. in diameter, which flowers freely; a gold-edged holly, 42 ft. high, trunk 2 ft. in diameter, and branches covering a space the diameter of which is 28 ft.; and a Portugal laurel 28 ft. high. Mr. Alexander kindly offers us a plan and description of the grounds at Maeslaugh, and an account of some other places in the neighbourhood, which we shall be greatly obliged to him for.

Trees and Shrubs in Buchanan's Arboretum, Camberwell. — We were much gratified by an inspection of this collection on May 11. Mr. Buchanan, jun., has spared no pains in collecting species and varieties from all quarters. At this season the acers look remarkably well, perhaps better than any other genus. There is a fine plant of the Corstorphine plane, and another of the purple-barked negundo. *Collètia spinosa* appears to be as hardy as a common furze bush. *Callistémon lanceolátus* has stood out three years without the slightest injury. *Ulmus rubra péndula* and *Ulmus viminalis* are most ornamental trees. There are some hundreds of shrubs well worth notice.

In the *Hammersmith Nursery* there are some remarkably fine specimens of trailing plants budded standard high, the singularity and beauty of which deserve the attention of every amateur. Wherever there is a lawn or a small spot of turf as a foreground, without much interest, all that is necessary is to plant one of these trees in it.

The Arboretum at Messrs. Loddiges' has received several additions, and undergone some changes. Unfortunately many of the specimen trees have got so large that they have been obliged to be cut down; a circumstance which should operate as a warning to gentlemen planting arboretums, to induce them to allow each plant sufficient room to attain its full size. There is scarcely anything that we are so desirous of seeing, as an arboretum of 100 or more acres within ten or twelve miles of London. The Dukes of Devonshire and Northumberland both have pieces of land, flat and capable of subterraneous irrigation, admirably adapted for this purpose. We would trench such soil to the depth of ten or twelve feet, richly manure it, and, in the months of May and June every year, we would keep it moist by supplying water to a surrounding moat, and from that to the roots, through subterraneous drains. The water in the moats might even be heated, if it were thought fit, by Perkins's small pipes. By these and similar means, we would produce such

growths in three or four years as usually require twenty or thirty years; such, in short, as the world has never yet seen. We only wish that one of the noble dukes in question, or some other wealthy and patriotic individual, would afford us the use of the soil till every tree planted had ripened seeds. — *Cond.*

ART. VII. *On the Culture of the Brunfelsia americana.* By Mr. ALEXANDER H. HOGG, Flower-Gardener to the Hon. Lady Heathcote, Hurstley Park.

THIS truly splendid and odoriferous exotic is nearly a stranger in our stoves, from so many gardeners being ignorant of its proper culture. The following may, therefore, be useful to some of the readers of your Magazine. Cuttings should be taken off in July, with a very small portion of the last year's wood, and inserted under a bell glass in a mixture of peat and fine river sand. The glasses must be carefully wiped dry every morning to prevent the cuttings from damping off; and, as soon as the least sign of their taking root appears, allow a little air by tilting the glass, and continue to increase it every day till the young plants are enabled to bear the atmosphere of the house. When fit for potting, place them in small sixties, with the same mixture as before, and with the addition of a small quantity of maiden loam. Continue to shift them when requisite, till they are finally settled in twenty-fours. Then, and not till then, will the plant produce its delicate white blossoms in profusion. This is attained by keeping it in a heat of nearly 70° from the time of its third shifting, and by allowing only two strong shoots to grow up till nearly 3 ft. in length; then top them, and shorten all the laterals to one eye; bend the two shoots, bringing the tops to within an inch of the pot, and detain them in that position by tying. This is the principal feature in the culture of the *Brunfelsia*, for, by keeping the shoots bent, the sap is prevented from rising in such abundance as it otherwise would, and thus the spurs are enabled to produce a great many more blossom buds, and the rapid growth of the wood is much retarded. Water must be sparingly applied till the blossom season.

I shall, when I have leisure, send you an account of my mode of culture of the *Cyclamen*, the *Linum trigynum*, and *Bouvardia triphylla*. — *Hurstley Park, Feb. 20. 1835.*

ART. VIII. *On the Coiling System of Vine Culture, with preliminary Remarks.* By Mr. R. FISH, Gardener to — Tattersall, Esq.

IN our intercourse with mankind, we often find that there is scarcely a measure that has been tried, however suitable it may be, for improving man's condition, but what has been at first

looked upon by some with indifference, while others have used towards it the language of vituperation. This probably arises from the number of new plans that are broached, and are at first highly praised, but which, when tried, are not attended with success. This makes many practical men look upon every new plan with suspicion, and reject what is good, because they have been deceived by the praise bestowed by the inventors on what they find to be bad. To obviate this, I think it the duty of all gardeners to relate the result of their experience whenever they have tried a new plan; and, to put an end to those super-superlative success papers of which they complain, they should expose every case of deception within the range of their knowledge, or simply give an account of their failures, when following certain prescribed modes of operation. To the necessity of doing the first they will probably give a cold assent; while from complying with the last they are deterred, lest it should be supposed by their employers that their failure arose from their not properly understanding the system, and not from any deficiency in the system itself. I have frequently felt the force of such reasoning; but, considering it to be my duty to make all such feelings succumb to the desire of establishing truth, I shall, with your permission, sometimes give you an account of my failures, in order that you and your readers may inform me whether my want of success is to be attributed to my ignorance of the principles of management, or to the circumstances in which I am placed; or to the delusive vanity of individuals, who, in order to bring themselves into prominent notice, have, without sufficient proof, published, as most beneficial systems, those which from their very nature cannot be attended with general utility or success: and I do this, hoping that, if others should be induced to follow my example, the usefulness of the Magazine will be increased, and the interests of gardening as an art and science will be promoted.

Having made these preliminary observations, I shall now proceed to offer some remarks upon a new system of cultivating the vine, the invention of Mr. Mearns; namely, that of coiling rootless shoots round the inside of a pot, in order to produce fruit from them the same season. Allowing that, after much trouble, a few bunches may be obtained by such a process, especially when tried late in the spring, my present impression is, that it never will be attended with that utility which will warrant its general adoption, even if it were practicable; and that, however interesting it may be, as establishing a phytological doctrine, the discovery can lay no pretensions to the honour enthusiastically claimed for it, of being a general benefit. I must confess that, reasoning upon first principles, my hopes of its success never were high; but as this season I had some shoots of old and young wood from three to six feet long, I was anxious to give the system a

trial ; and accordingly, putting up a bed of dung and old leaves, I plunged the pots partially into it in the beginning of December, increasing the temperature by plunging deeper, &c., until from 60° , at the end of the third week, the bottom heat ranged from 85° to 95° : the atmospheric temperature of the pit ranging from 45° to 60° . I was well aware that the success would wholly depend upon getting the wood in the pot stimulated into action previously to the developement of the buds, so that when that took place there might be roots formed to support them ; and had succeeded so far, that, by the time the buds were expanding, the plants, which I examined, exhibited a dense mass of spongioles protruding from the wood, in contact with the sides of the pot. In the second week of January, I removed those on which the embryo fruit could be detected into another house, where they were more exposed to the light, the temperature of which ranged from 65° to 75° . Here, although they looked well for a short time, the bunches gradually shriveled up ; so that, to cut the story short, I experienced a complete failure. The atmosphere of London might, to a certain extent, be instrumental in producing such a result, especially as, at the period alluded to, there were a few very foggy days, so dense, indeed, that one person could not recognise another a few paces distant. But the appearance of the plants did not indicate that this was so much the cause of failure, as that it arose from a want of a supply of proper nourishment. Every one who has paid any attention to vegetable phenomena must have taken notice of the capabilities of plants to accommodate themselves, to a certain extent, to peculiar circumstances ; and that some possess this power to such an extent, that the vital principle will give evidence of its indestructibility when the branches are plunged in the earth and the roots waving in the breeze ; the former in course of time protruding roots, and the latter buds and branches. But, although aware of such a fact, we do not thence infer that branches and roots are the same in construction, or that hence, even in climbing plants, as the vine, the roots emitted from the shoots are immediately capable of performing the same office as the regularly constituted established roots of the plant. In examining the pots, I found that the roots consisted of large spongioles, different in nothing but their size from those which break out upon the wood in a vinery ; and as, at the time of the failure, few or no fibres were protruded from these main spongioles, I consider that this will operate against the utility of the system, inasmuch as the fluids absorbed from the soil will be immediately transferred to what was formerly the stem in a very crude, undigested state, from not having passed through those different parts in a regularly constituted plant, all of which we have reason to believe exert an influence upon the properties of the sap, previously to its receiving its final elaboration in the leaves ; and this I feel more

inclined to hold, as the stagnation referred to in all likelihood took place at that critical period when the fully elaborated fecundated sap, contained in the shoot as a reservoir, had been expended, and also because all that I have heard of (with the exception of Mr. Mearns), who have obtained even very limited success, have tried the system late in the spring, when we know that all the processes of vegetation are sooner developed, and consequently the different parts of regular roots are sooner obtained by the coilers.

But why question the utility of the system before you have found it will not succeed, either when tried early or late? This question, frequently put, I answer by asking in what the utility consists, were I even to allow that the system did partially succeed, when tried, for instance, in the beginning or middle of March? For the final reception of your plants, you must have a frame or pit, &c.; and I should like to know if the most strenuous advocate of coiling is prepared to show that a pit, &c., appropriated to such a purpose, will insure more profit to the owner than if it had been appropriated to its wonted purposes; or if, by filling it at random with coiled pots, he could expect to realise any thing like the same weight of grapes which he would expect and obtain from vines planted out, and the tops taken into the pit, frame, &c., in the usual manner?

What I consider to be the strongest argument against the utility of this system is, the impossibility of its adoption in general cases, consistently with the proper management of the plants from which the coilers are taken. I am well aware that many practise the system of allowing some of the shoots to grow till the winter pruning, when they are very likely cut back to less than a third of their length. I will not say any thing of the unscientific nature of such a process, when fruit, and not mere strength of wood, is required. Every person can judge for himself, who will take the trouble to contrast the fine matured buds, which he cuts away, with the small diminutive ones that he leaves at the bottom of his shoot; which, let him treat ever so carefully, will reward him with little or no fruit for his trouble, if ever they break at all, on account of having been unduly shaded, and deprived of nourishment by the buds now cut away. In fact, I can see no means by which the system can be followed without injuring your established plants, unless when an old branch requires to be cut out; or in those places where the long rod system is followed, when the shoot annually cut out might be so applied, and, from the age of the wood, be much more likely to succeed than young shoots of the previous season.

Feeling somewhat interested in the subject, I have written to several individuals, and all who have answered my letters inform me of their failures. All my acquaintances in this neighbour-

hood have also failed. Surely, we do not understand Mr. Mearns's system, or he has not fully explained it to us; or he has himself been deceived as to its relative merits. For the purpose of farther elucidating the subject, I beg leave to propose the following questions, to which he ought to give a clear and decisive answer:—How many pots had he, when first he published his invention? and what weight of grapes did he have from these pots? and, upon an average, how many pots were destitute of fruit, for one which had fruit? Understanding that Mr. Mearns had many hundred pots this season, I also desire the same answers respecting them. These plain facts will give more knowledge of the system, so far as success is concerned, than a dozen of laudatory or condemnatory essays. To remove every doubt, it will be necessary also to know if Mr. Mearns is prepared to show that the specimens of his success, to which he refers, were all the produce of rootless shoots; and that none of them, such as the black Constantia vine, were plants that had been taken up with roots, and then coiled; or the produce of rootless shoots that are in the second season of their growth. If in the second season, I desire to know in what respect the coiling system is superior to that of Mr. Pillans, who obtains fruit in the second season from plants raised from buds; which system, although it appears to me to be impracticable, where time and labour are scarce commodities, is at any rate free from that objection which I have already designated as the principal argument against the utility of the coiling system. The propriety of the above questions must be apparent to every one who, like myself, knows not whether to admit that Mr. Mearns obtains a greater quantity of fruit by such a process than he would do by the ordinary method; or that he merely gets as much from a vast number of pots, as is sufficient to prevent the result from being viewed as a complete failure, which it unquestionably would in the case of those who only had a limited number of pots; and therefore the sooner the matter is set at rest the better, as I know that the system has not only been a source of trouble to gardeners, but also, in some cases, of unpleasantness between them and their employers. — *Hyde Park Corner, London, March 24. 1835.*

JUST after the above communication was sent to press, we received a hamper from Mr. Mearns, containing three coiled vines, having abundant roots and vigorous shoots made last year, together with the following letter:—

“I have forwarded with this three vine shoots, cuttings of last spring. I have many such, full of fine bunches of grapes, at this time. I have also many of such to bring into action; and I am confident I shall have every eye to show two and three bunches, and as fine shows as can be, many of them muscat of Alexandrias, and all of the choicest and finest kinds.

“The weakest one sent is merely to show what can be done in one season, when a judicious attention is paid to vines to encourage them to do their best. The one in question was a piece of old wood denuded of every excrescence likely to produce any bud, and then coiled into a pot, and placed in a bottom heat, to show His Grace the Duke of Portland the rapid progress which roots would make without the presence of any bud. It was, with some others, shaken out of the pot five different times before His Grace and friends, to show the rapid increase of the roots; and the roots were broken each time. When repotted a sixth time, and left, it formed a bud, and, by a judicious stopping, produced the wood which you see. [Stopping the main shoot, as it advanced, at every fifth or sixth bud, and pinching off all the laterals, leaving only a leader.] Some are much finer than the one sent, but are retained for His Grace’s future investigation. One of the same fruited last reason.

“The sultana and black Damascus sent were both young wood, coiled this time twelvemonth, and are two as fine as any that I have of the same age. Many of them are now full of fruit. None does better than the muscat of Alexandria and its varieties, many of which are at this time exceedingly fine indeed.

“I have coilers of last season in pots and boxes, with from three bunches to thirty-six on each vine, and of the large and fine kinds. I have coilers of this season with from three to twelve bunches on each, and fine wood for next season’s bearing. One white Frontignan has nineteen fine bunches upon it, and was a rootless branch six weeks ago. I have at this time sixty pots of grapes in action, with three hundred and fifty bunches upon them; many nearly ripe, and finer, of the sorts, than I ever saw upon vines in a border. I have about thirty pots to bring into action, from last spring’s coilers; and, as these are all my best shoots, I believe that they will produce me between five hundred and six hundred bunches of very fine grapes.

“*Welbeck Gardens, near Ollerton, March 24. 1835.*”

Mr. Fish, and another excellent practical gardener, were present when the hamper was opened; and if either of them should have any remarks to make on what they saw, they shall be given in a future Number. None of the vines sent were in a growing state; and, as they were all coils of last year, they merely prove that coiled shoots will make both vigorous roots and wood. Whether the plants thus produced will be more productive and profitable than plants originated from eyes struck the preceding year, remains, as it appears to us, to be proved. Our readers will observe that this is quite a different question from that of the practicability of getting fruit from a coiled vine the first season, which was the chief point insisted upon in Mr. Mearns’s former communication, Vol. X. p. 138. — *Cond.*

ART. IX. *The Mode of cultivating the Pine-apple, as practised at Downton Castle, the Seat of T. A. Knight, Esq. F.R.S., President of the Horticultural Society.* Communicated by J. M.

IN my cursory relation to you, the other day, of what I saw most worthy of notice during my late circuitous journey into the country, I mentioned the pine-apple plants at Downton Castle as being the healthiest and most robust I ever saw; and, as I could not then with certainty enter into particulars respecting the mode of pine culture practised at that place, I wrote to Mr. Lauder, gardener to Thos. Andw. Knight, Esq., who has favoured me with the following account; to which I beg to add, that in the month of January last, when I called at Downton Castle, several of the pine plants were showing fruit, and that Mr. Lauder told me that there was not a plant in the house fifteen months old. I can safely assert that I never saw finer plants, nor have I any where else seen plants of even two years growth to equal them in size. For these reasons I would strongly recommend those gardeners who have the opportunity to try Mr. Knight's mode of pine culture, particularly his method of bringing the suckers forward by the aid of the parent plant. Another point, in which Mr. Knight greatly deviates from the general practice, is in his dispensing entirely with the ordinary bottom heat, in lieu of which the plants are placed on a stage of masonry, elevated so as to reach within a certain distance of the roof of the house; all the plants thus stand about the same distance from the glass, and, as the pots are exposed to the circumambient air, it seems indispensably necessary to have that element in a constant state of humidity. Another thing favourable to the success of Mr. Knight's practice is, that the fuel used for heating his houses is composed of coal-dust and clay well incorporated, and put on the fires in a completely dripping state, which produces a soft, or rather smothered, heat: this, with the flues being always kept damp, fills the house with a close hazy atmosphere, greatly assimilating to that of the tropical climate of which pine-apples are natives. I would further observe, that at Downton Castle the pine-apple is fully matured in about eighteen months; and as the plants are never removed from the pots into which they are first put during that time, and as all the operations connected with the tan-bed are dispensed with, much labour and expense are saved. Now, in the general practice, very seldom a crop of pines is matured in less than thirty months; and, during that time, three or four pottings, plungings, and renewings of the tan-bed will be found necessary: this requires no comment, it speaks for itself; and should Mr. Knight's system produce smaller fruit, as some gardeners seem to infer it will, the weight grown by both methods, within a proportionable extent of surface and space of

time will be found to preponderate greatly in favour of Mr. Knight's. I am aware that the plunging of the pots is essential to the successful cultivation of the pine in the usual way; and as the gardener's avocation claims his attention every where, the less he becomes dependent on the cooperation of others, the more sure his success will be. By continuing the pot-plunging system, the plants will be less likely to suffer from the negligence of assistants, or from the sudden changes of the weather; and this system would certainly be the best, if any means could be devised to obviate the necessity for the continual renewing of the tan-bed, or the shifting of the plants, except at the time of replenishing the bed with a fresh supply to produce another crop of fruit; and if this plan could be combined with Mr. Knight's mode, it would materially lessen the labour and expense now required.

Mr. Hay's (of Edinburgh) method of communicating heat to the body of the bed is the best, I think, yet made known to the public: still it is objectionable; and, during my late journey into the country, I saw an instance of its injurious effects arising from the negligence of the person who was intrusted to turn the steam off the pine-bed, and who forgot to do so at the specified time; the consequence was, that the roots of all the plants that were plunged on that division were completely broiled. The agency of any thing that is subject to such sudden effects should, I think, rarely be employed, particularly where the success depends so much upon the precision of personal attendance; and the improved state to which the hot-water system is brought leaves no ingenious gardener at a loss for a safe and effectual mode of heating; but in this, as in almost every other new discovery, a multiplicity of modifications under the name of improvements are brought forward by individuals claiming public patronage, which may tend to disconcert the young gardener in determining to which he should give the preference. I would here remark that the most simple in its construction will generally prove the most effectual in its operation, provided it is suitable to accomplish the purpose required; and, of all the systems that I have seen, I give the preference to Kewley's siphon mode of circulating hot water, it being governed by atmospheric pressure. A common open boiler, or, in fact, any vessel that will stand fire heat, and is large enough to hold ten gallons of water and upwards, will do; and, as the merely placing the ends of the siphon pipes in a perpendicular direction, a few inches beneath the surface of the water, is all that is necessary, there is no difficulty or trouble in adjusting them to any hot-house, however unfavourable its position may be: and, in addition to this, it has the peculiar advantage of admitting water, without delaying its operation, to circulate on a level with the boiler in open con-

duits round any part of the house, which will be found the most efficient way to communicate heat to the materials of the pine-bed. In further illustrating that object, I would observe, in the first place, that the earth within the pine-house, to the depth of several feet below the threshold or back path should be dug out; and, in forming the plunging-bed for the pines, the side and end walls, to the height of about 3 ft., should be built in open work, or pigeon holes, and the space within be filled to the same height with brick-bats or rubble-stones, upon the top of which the material for plunging the plants in may be placed, and the upper part of the walls finished in the usual way; and, to communicate bottom heat to the whole, water is to circulate in an open conduit placed round the outside of the pigeon-holes, and as low as the level of the surface of the water in the boiler will allow, with which it is to communicate by short siphon pipes. The conduits may be formed of sheet copper or iron, about 2 in. deep, and not less than 8 in. wide. To confine the heated air to the bottom part of the bed, the flags of the paths above should be laid close together in Roman cement, with the ends only resting in the sides of the bed and walls of the house, and ventilators should be placed at proper distances, to admit the humid air occasionally among the pines above: for the conveniency of walking underneath, a narrow path may be dug out for that purpose, and an entrance may be had from the stock-hole. To follow the details any further I think is unnecessary, as every one can modify the application to such local circumstances.

The following is the letter received from Mr. Lauder:—

“Dear Sir,—In compliance with your request, and with the permission of my worthy master, I have great pleasure in stating to you the mode of pine culture practised at Downton Castle. In the outset I must remark, that the present practice is exactly the same that Mr. Knight commenced with, and that it has, years ago, been recorded in the *Transactions of the Horticultural Society*. As soon as the plant shows fruit, the strongest sucker is preserved, all the others being taken off as they appear. When the fruit is cut, the plant is taken out of the pot with as many roots as can be removed with it, and all the leaves, except four or five on the top of the stool, are scaled off; the leaves are also scaled off the base of the sucker, as is usually done; but the sucker remains growing to the stool, until in its turn it becomes the parent plant, producing fruit and suckers, and undergoing the same operation as its progenitor, whose place it is to occupy. The few leaves left on the top of the stool are, as they become matured in the course of the season, plucked off; so the old stool, being entirely covered with earth, produces abundance of young roots, which continue to supply the rising plant with additional nourishment, independent of that obtained by its own

immediate roots, until it has performed its office. Pots of a cylindrical form are used, measuring 10 in. inside in diameter, the same width bottom and top, and from 16 in. to 22 in. in depth, varying to suit the length of the old stems and suckers, which are to be removed into them. Draining of the bottom of the pots is considered of little importance, for some of them have no holes at all to allow the escape of excess of moisture; but care and judgment must be used in giving water in such cases.

“The sorts of pines grown or valued here are the St. Vincent or green olive, the green providence, the queen, and black Jamaica; and the mould in which these plants are grown is a compost of rich loam with a proportion of animal matter well incorporated. The plants, on being potted, are placed in very high heat, not less than 100°. While the temperature is kept at this height, a good deal of water may be given freely, and in such quantity as to reach the bottom of the pots. At this stage of growth, the plants will occupy very little room, as the pots may be placed close together, and will only require to be removed to a greater distance as they increase in size.

“The pine plants are never moved out of the pots in which they are at first put until the fruit is cut; and in all seasons, except in the dead of winter, they require a good deal of water, and to have the air of the house in a continual state of humidity: for this purpose, water must be frequently thrown over the flues and floor of the house. The pines are sprinkled with water in the evenings of hot summer days in such quantity as to cause some to remain in the axillæ of the leaves until the following day. Manure-water especially, when the fruit is swelling, may be given to the roots with advantage. The plants require no shading in the hottest season, provided the mould in the pots be kept damp, and the house be kept in a humid state; but when the pines were grown in the curvilinear-roofed houses (which is not the case now), a curtain was drawn over the roof in the first bright days of spring, and of the early part of summer. In dry air the plants will not thrive well, and will run prematurely to fruit; and this want of moisture has probably been the only cause why the pine-apple has not succeeded well out of the bark-bed. Mr. Knight has been always indifferent as to the introduction of insects into his houses from diseased plants, as no insect that has ever infested the pine-apple plant can survive after being subjected to the operation of two or three times syringing with water at the temperature of 150°, at which heat water may with safety be ejected from a syringe upon the plants, without the least apprehension of danger. You will observe that there is no regular time for shifting the pine-plants grown at Downton, for, as soon as a fruit is cut, the plant undergoes the operation already stated, and is left in that state until the sucker produces fruit.

As a practical man, and one that has had some experience in rearing pines for the market, I can safely assert that this is the simplest and cheapest mode of pine-culture that has come under my observation; and in those districts where coals are cheap, for instance, Staffordshire, a persevering individual, with a few small glass-houses, might supply the London market infinitely cheaper than it is at present supplied, and realise a better profit than market-gardeners are in the habit of doing. Mr. Knight, after the present crop of fruit is cut, is going to give over pine-growing altogether; he has sufficiently proved the efficacy of his mode of pine culture, and as the pine-apple was never a favourite fruit of his, and as, indeed, he does not consider it a wholesome one, he means to use the houses for other purposes. I am, dear Sir, yours, &c., — S. LAUDER. *Downton Castle Gardens, March 31. 1835.*"

ART. X. *Floricultural and Botanical Notices of newly introduced Plants, and of Plants of Interest previously in our Gardens, supplementary to the latest Editions of the "Encyclopædia of Plants," and of the "Hortus Britannicus."*

Curtis's Botanical Magazine; in monthly numbers, each containing eight plates; 3s. 6d. coloured, 3s. plain. Edited by Dr. Hooker, King's Professor of Botany in the University of Glasgow.

Edwards's Botanical Register; in monthly numbers, each containing eight plates; 4s. coloured, 3s. plain. Edited by Dr. Lindley, Professor of Botany in the London University.

Sweet's British Flower-Garden; in monthly numbers, each containing four plates; 3s. coloured, 2s. 3d. plain. Edited by David Don, Esq., Librarian to the Linnæan Society.

EMBRYO DICOTYLEDONOUS: COROLLA POLYPETALOUS.

IX. *Cruciferae*. § Cotyledons flat, incumbent on the radicle, — Notorhizææ.

[? Affinity] MORISIA [? Authority]. (*Professor Moris*, who discovered the species on the mountains of Sardinia. — *D. Don.*) 15. 2. Sp. 1. —

hypogæa [? Authority] *fruit-interring* 3? 4? Δ? pr 4 ap Y Mountains of Sardinia 1833. [S lt.1 Sw.fl.gar.2.s.290
"It derives its specific name from its capsules burying themselves in the ground, like some of the Violeæ." — *D. Don.* And like *A'rachis hypogæa* and *Trifolium subterraneum*.

Green glabrous polished leaves, about 2 in. long, and cut in somewhat the mode of those of the shepherd's purse and those of the dandelion (*dent de lion*), are produced from the crown of the plant upon the earth's face. Peduncles not a few, from the same source, attain about an equal length; and each bears at its tip one flower, whose corolla, of four petals, is of a bright yellow colour, and, in extent, something less than a sixpenny-piece. These are the more obvious of the features of the plant's physiognomy: and those of our readers who regard plants according to their physiognomy only, will hence, and from the

following extract, be able to judge whether *M. hypogæa* be desirable to them or not. "It is perennial [In the page preceding, it is stated, "plant apparently perennial."], and quite hardy, and appears well suited for rockwork; where its numerous bright yellow blossoms, contrasted with its deep green polished leaves, would doubtless produce a good effect. It requires a light loamy soil, and is readily increased by seeds, which should be sown immediately they are ripe;" as is suggested by the plant's habit of burying its fruit "in the ground, like some of the *Violeæ*." The figure published of *M. hypogæa* has been derived from a plant of it in Mrs. Marryat's collection, at Wimbledon, Surrey; into which Mrs. Palliser had introduced it from the Royal Botanic Garden at Turin, by seeds given to her by Professor Moris. The fact of this lady's introducing it, in 1833, is registered in *Gard. Mag.*, x. 339. 341.

Mr. D. Don is not aware who it is that has instituted the genus *Morisia*. On its affinity, he has thus stated:—"The plant, in habit and structure, comes very near to *Eucària*, except in having even, not folded, cotyledons: a remarkable character, which removes it entirely from that group; and we know of no other with which it can be associated." The seed-vessel is partitioned, by a deep constriction, into two portions, each two-celled; with three seeds in each of the lower cells, one seed in each of the upper cells. (*British Flower-Garden*, June.)

LXXIII. *Rosàceæ*.

1528. *POTENTILLA*.

[Epistils of *Potentilla formosa* ✕ Δ pr $\frac{1}{2}$? my.s O.R. Eng. hybrid 1834? C co tormentillo-formosa *R. Tongue*, a hybrid, the result of applying pollen of *Tormentilla réptans* to

It has been raised by *R. Tongue*, Esq., of Forton Cottage, near Lancaster. Its first-borne flowers have been produced in May, 1835. It assimilates to *Tormentilla réptans* in its stems being prostrate, slender, and, seemingly, disposed to lengthen to some extent. These may or may not emit roots at their joints: a plant in a pot, from which this notice is now (June 11.) taken, does not show roots protruded from the joints of the stem. Whole surface of the plant pubescent. Leaves: the radical ones, and those upon the lower portion of the stem, 5-leafleted; farther along, 3-leafleted, then 2-leafleted, then 1-leafleted. Leaflets obovate, with the lower portion wedge-shaped; margin of the upper or outer portion toothed with uniform teeth. Bractæas ovate-lanceolate, nearly entire. Sepals ten, in an outer and an inner series; those of the outer as long, though not quite so broad, as those of the inner. Corolla nearly as broad as a sixpenny-piece. Petals in colour between orange and buff, with a rather small bright red spot at the base of each. Stamens about twenty. Anthers not luxuriant, and not any pollen scattered; although some appeared to be present at the openings of the valves of the anthers. Styles numerous. — *J. D.*

LXXVII. *Leguminosæ*.

2071. PSORALEA. (*Psoraleos*, warty; in allusion to the very general presence of little tubercular secretions upon the surface of different species. *Lindley*, in *Bot. Reg.*, t. 1769.)

18635a macrostachya Dec. long-spiked $\gamma \Delta$ or 3 jl P California (see below) 1833 ? S s.1 [Bot. reg. 1769]

DeCandolle has described *P. macrostachya* from dried specimens communicated to him by Lagasca; and has given Nutka in North America as the native country of it. "Our [Dr. Lindley's] drawing was, however, made from plants ["in the garden of the Horticultural Society"] obtained from California through Mr. Douglas; and we, therefore, suspect some error in the former statement." *P. macrostachya* *Bot. Reg.* is a "handsome, hardy, perennial" species; "yielding seed in tolerable plenty, and readily increasing by division." It is pubescent all over; its stems are erect and branched, its leaf is of three ovate-acuminate leaflets. The flowers have purple corollas, and are disposed closely in spikes upon axillary long peduncles: more than twenty flowers are shown in the spike depicted. A singular hairiness pervades the rachis (the axis upon which the flowers are situate) and the "green parts of the flower. . . . After the flowers have fallen off, this produces a singular appearance; the naked rachis remaining at the end of each flower stalk [peduncle] in the form of a long hairy tail." (*Bot. Reg.*, June.)

CXVI. *Rutaceæ*.

676. BARYOSMA.

[bluish [? blush] colour when fully expanded" C. G. H. ... C p.1 Bot. mag. 3413 crenulata [] crenulated-*fld.* $\star \square$ or $2\frac{1}{2}$ "early spring" "purple in bud, of a delicate Dr. Hooker has presented a digest of synonyms: *Diósma latifolia*, Lodd. Bot. Cab. t. 290., is one of these; odorata *R. & S.* is not included; and the omission, if just, affects No. 5575. of Loudon's Hort. Brit.

Handsome: the flowers appear in early spring, and continue a long time in perfection; are purple in bud, and of a delicate bluish [? blush] colour when fully expanded. (*Bot. Mag.*, June.)

EMBRYO DICOTYLEDONOUS: COROLLA MONOPETALOUS.

CXXII. *Geraniaceæ*.

Pelargoniums. — Certain early-flowering varieties, cultivated by Messrs. Dennis and Co., are noticed in p. 296. The aggregate of beauty in the blossoms of the kinds in flower at Messrs. Dennis and Co.'s, on June 10., was, to us, striking, and very highly gratifying. Of the more mentionable of the kinds flowering at this date, these are the names of some: — Wells's Fanny, diversum of the French cultivators, Miss Annesley, Dennis's Fanny, Lauretta, Lucifer, Amelia, Catesbyanum, brassicoides, Rosa mundi, vulneratum, Adansoni, Sweetianum germanicum, olympicum, bipinnatifidum. Lauretta, Lucifer, Wells's Fanny, diversum, Miss Annesley, are, perhaps, those of the kinds cited which would be the more popularly esteemed. Of Lauretta, the corolla is in colour towards lilac; the spots not large, but beautifully marked. Lucifer, scarlet, with dark velvety spots.

Wells's Fanny, upper petals purplish pink; lower, paler; spots white and red. *Diversum*, upper petals rose; lower, blush. Miss Annesley like *diversum*, with larger spots. — *J. D.*

CLXX. *Ericàcææ*.

133. *RHODODÉNDRON nudiflorum* *D. Don*; 521. *Azàlea* 4347. *nudiflora* Loudon's *Hort. Brit.*
[*Rhododéndron arboreum* ♂ 1829 L p.1 Sw.fl.gar.2.s.291
var. *eximium* *D. Don* choice * spl 3? ap C Eng. hybrid *Azàlea nudiflora coccinea major* ♀,

Raised by Mr. Wm. Smith, Norbiton Common, near Kingston, in 1829, from seeds from flowers of *Azàlea nudiflora coccinea major*, to which pollen of *Rhododéndron arboreum* had been applied; "and, except in its evergreen leaves and decandrous [10-stamened] flowers, it agrees almost entirely with the former species [*Azàlea nudiflora*], having less affinity with *arboreum* than any of the other hybrids from that species which we [Mr. D. Don] have seen. The plant appears to be quite hardy, is readily multiplied by layers, and, from the beauty of its flowers, is well deserving of a place in every garden." (*British Flower-Garden*, June.)

Rhododéndron arboreum var. *venustum* *D. Don* should be the name, rather than *Rhododéndron venustum* *D. Don*, of the kind on which we have quoted particulars under the latter name in p. 297. Mr. D. Don has authorised this change in the words:—

" We inadvertently omitted to mark it as a variety; and we have, therefore, to request our readers to alter the name to *R. arboreum venustum*, it being far from our intention to attempt to elevate these garden productions to the rank of species." (*Brit. Flower-Garden*, June.)

CLXXXVI. *Compósitæ*, subtribe *Gnaphalièæ*.

CRASPE'DIA Lessing. (*Kraspedon*, a fringe; in allusion, probably, to the appearance of the pappus. — *Hooker*.) 19. 5. Sp. 1. —


[Wellington in Van Diemen's Land 1834. S s? 1? Bot. mag. 3415
macrocéphala *Hooker* large-headed-inflorescenced ♀ Δ or Δ or 1½ ... Ysh.W Mount

A hoary colour pervades the leaves and stem, which are clothed with appressed silky hairs. Leaves alternate; lower ones spatulate, merging, successively, upwards, into a linear-oblong figure and smaller size: "the whole appearance of the foliage is similar to that of *Ammòbium alatum*, but of a more bluish green." Stem 18 in. or more high, not branched, bearing at its summit a single large head of flowers that is nearly globose, and, in the figure, is shown to be 2 in. or more across; its colour is described to be "dirty yellowish white;" of which colour must also be the flowers that compose the head. An involucre of several bracteate leaves is subtended at its base. This head is constituted of numerous smaller headlets (*capitula*), each of about five flowers, and surrounded by about five lanceolate membranaceous scales. Corollas funnel-shaped, the tube remarkably slender. Down of the seed of about fourteen bristles, which are beautifully feathery. Mr. Curtis, the proprietor of the *Botanical Magazine*, nurseryman, Glazenwood, Essex, raised this

very interesting plant, in summer of 1834, from seeds gathered on Mount Wellington, at 3000 ft. above the level of the sea, by Mr. William Davidson, the curator of the Hobart Town Botanic Garden, and brought by Dr. Wilson. It is communicated in the *Bot. Mag.*, from Mr. Curtis, that "the plant flourishes with me in a common pit; but I expect it will prove quite hardy, though I do not venture to remove it to the border during winter." (*Bot. Mag.*, June.)

CXC. *Cinchonaceæ*.


6315. ? RA'NDIA.

Bowieana Cun. Bowie's  or ... Pa.Y Brazil 1815? C l.p Bot. mag. 3409
"The genus must remain doubtful, until we have an opportunity of examining the fruit."—Hooker.

A shrub of slender habit. Leaves oblong, but broader upwards; acuminate, 3 in. to 4 in. long, and more than 1 in. broad; borne in opposite pairs, several together, at the extremity of long straight shoots. Flower large, handsome, terminal, solitary; tube of the corolla about, by the figure, 5 in. long, cylindrical; the limb spreading or slightly recurved, more than 2 in. across by the figure, of five large, obovate, yellow-buff-coloured segments: a club-shaped, large, yellow stigma is prominent from the mouth of the tube. "A handsome stove plant, discovered in the year 1815, by Mr. Allan Cunningham and Mr. Bowie, the king's botanical collectors in Brazil; and by them sent to the Royal Botanic Gardens at Kew," whence the specimen figured and described has been supplied. (*Bot. Mag.*, June.)

CCIX. *Gesnerææ*.

1698. GE'SNERA.

[oblong or spatulate]  or $1\frac{1}{2}$? jl O Brazil? (see below) 1834? C p.1 Bot.reg.1767
allagophýlla Martius shifting-leaved (leaves ternate, opposite, or scattered; and either linear-

The figure has been taken from a plant belonging to Mr. Young, Epsom. Dr. Lindley is not certain that this is of the species *allagophýlla Martius*: if it be, it "is a native of the auriferous plains of Brazil, in the province of the Mines, in various places. . . . It has also been met with by Sellon, beyond the tropic, in the province of St. Paul's." Whether it be this species, or one distinct from it, Dr. Lindley has deemed it "a very pretty neat species, and an interesting addition to the showy and easily cultivable genus to which it belongs." The whole surface of the plant is represented hairy, even the corollas externally; a detached leaf, from the lower part of the stem, is oblong, obtuse crenate; leaves on the upper part of the stem are ovato-acuminate crenate. Flowers sessile, constituting a spike more than 4 in. long; corolla more than half an inch long, orange-coloured, or rather more red than this. (*Bot. Reg.*, June.)

CCXI. *Scrophularineæ*.

A revision of the characteristics of nearly all the known genera of this order, by George Bentham, Esq., is presented in the *Botanical Register*, the number for June, 1835. This will be agree-

able news to those who have knowledge of the useful effects of this author's revision of the characteristics of the genera of the order Labiatae.

1717. PENTSTEMON.
28400a staticifolius Lindl. Sea Lavender-lfd. $\frac{1}{2}$ Δ or $1\frac{1}{2}$ to 2 in Li California 1833. D p.1 Bot.reg.1770

"It is most nearly related to *P. diffusus*; from which it differs in its much larger and more lilac flowers, in the form of its leaves, and in those next the root being perfectly entire." The figure is from a drawing made in the garden of the London Horticultural Society, to whom Mr. Douglas had sent seeds from California. Only one plant of this species was originally raised, and plants of it are yet extremely rare. It grows and flowers freely in a peat border. (*Bot. Reg.*, June.)

CCXX. *Verbenaceæ*.

1749. VERBENA 15654 multifida R. & P. in the year 1798; synonyme erinoides W. in 1809: Dr. Lindley retains "the oldest designation."
var. contracta Lindl. compact-habited $\frac{1}{2}$ Δ pr $\frac{1}{2}$ jl purplish Alps of Chile and Mendoza [1834? C p.1 Bot. reg. 1766

It has been stated of *V. multifida* R. & P. (*V. erinoides* W.), that it is one of the commonest of all plants on the alps of Chile and Mendoza, where it inhabits to the elevation of 8000 ft.; and varies extremely in the colour of the flowers, which is scarlet in some individuals, blue in others; in *V. multifida* var. contracta Lindl., purplish; sulphureous in *V. sulphurea*, which, Dr. Lindley can scarcely doubt, is another form of *V. multifida*: in stature, and in the degree in which the leaves are cut, *V. multifida* contracta Lindl. "looks almost like a species of scentless thyme, and grows in a very dense patch." It "has but little disposition to extend itself." The account and figure pertain to it in a living state in the garden of the London Horticultural Society. (*Bot. Reg.*, June.)

EMBRYO MONOCOTYLEDONOUS.

CCXL. *Orchideæ*.

2554. ?EPIDENDRUM.
stenopetalum Hooker acute-sepaled and petaled $\frac{1}{2}$ \square or 1 f.mr Ro Jamaica 1834? [D p.r.w Bot. mag. 3410

"Owing to the imperfect state of the anther, we [Drs. Hooker and Lindley] cannot refer it with certainty to the present genus." — Hooker.

Stem simple, 10 in. or 12 in. high; terminated by two spreading, linear-oblong, coriaceous, very obtuse smooth leaves, from 2 in. to 3 in. long. From between these the flowers, from four to six in number, arise. Sepals and petals of a delicate rose-colour. (*Bot. Mag.*, June.)

MISCELLANEOUS INTELLIGENCE.

ART. I. *Domestic Notices.*

ENGLAND.

A GRAND Floricultural Fête and Exhibition of Flowers and Flowering Plants for the Victoria cup, and other prizes, was held at Lord's Cricket Ground, St. John's Wood Road, Regent's Park, May 26. It was numerously attended, and the display of flowers and plants was very brilliant, notwithstanding the state of the weather, which was unfavourable. It is pleasing to see exhibitions of this sort taking place in every quarter of the metropolis and its suburbs. We hope the exhibitions at Lord's Cricket Ground will be continued regularly; and this, with the exhibitions at the Surrey Zoological Gardens, would supply, if the expression may be used, the demands of the north and the south sides of the metropolis: the Chiswick exhibitions supply the west end; and there remains only one to be established at Greenwich or Deptford, to gratify the eastern quarter of the metropolitan district. We could wish to see four large botanical and horticultural gardens similarly situated, with a view of promoting the same objects. — *Cond.*

The Metropolitan Florists' Society held a show in Jenkins's nursery grounds, Regent's Park, June 15. A number of articles were exhibited, chiefly cut flowers, among which were some fine roses; but there was also a good assortment of pelargoniums, as well as of some other articles in pots. Mr. Rivers of Sawbridgeworth Nursery exhibited a cut flower of *Pavia carnea pubescens*, a late-flowering variety, for which he received a premium. It has the general appearance of *Pavia discolor*, but grows to the size of a tree instead of that of a mere bush. Scott's garden syringe, a very powerful instrument, was also exhibited.

A Floricultural Exhibition was held at the Surrey Zoological Gardens, in conformity with our notice, p. 320. Considering that, at this period of the year, gardeners have more to do than at any other, the show was remarkably good, and far exceeded that in the centre of the Regent's Park. There was a most superb collection of plants in pots, and of cut flowers, sent by Mrs. Marryatt; some magnificent calceolarias from Messrs. Young of Epsom; and a number of plants, and of roses and other cut flowers, from Messrs. Allnutt, Lowe, Curtis, Blair, Wallace, and many other amateurs, nurserymen, and gardeners.

It is to be regretted that the exhibition in the Surrey Gardens and that in the Regent's Park were not held on different days; because, had this been the case, there can be no doubt that both would have made a better display, and have been more numerously attended. It is no small proof of the growing taste for exhibitions of this kind, that these meetings, though held on the same day, were both attended by several thousands of persons. We were particularly gratified in witnessing the excellent display made by Mr. Cross, and the numerous company which assembled to view it; because the opposition shown to him by the Metropolitan Society has been of the most extraordinary description.

SCOTLAND.

Caledonian Horticultural Society. — At the Spring General Meeting for 1835, various medals were presented; among others, the silver medal to Mr. Wm. Pearson, gardener at Cally, for a fine seedling variety of Portugal laurel, and a new implement for raising and cleaning gravel walks. A description or drawing of the machine, and a specimen and history of the Portugal laurel, will, we trust, be sent us for this Magazine and our *Arboretum Britannicum*.

An interesting account of the temperature of walls of different materials, in the Experimental Garden, we shall quote entire.

"The mean temperature of the various kinds of fruit walls, for the months of August, September, and October, 1834, was found as follows :—

	Aug.	Sept.	Oct.
Sloping brick wall painted black, greatest cold in the night - - - - -	48 $\frac{1}{2}$ °	45°	40 $\frac{1}{2}$ °
At 6 o'clock in the morning, or, as the season advances, as soon as clear in the sky -	52	58	44 $\frac{1}{2}$
At 1 o'clock P.M. - - - - -	76	66	63
At 6 o'clock evening - - - - -	61 $\frac{1}{2}$	56 $\frac{1}{2}$	51
Perpendicular wall of whinstone, or dark green-stone, greatest cold in the night - - -	50	47 $\frac{1}{2}$	42 $\frac{1}{2}$
At 6 o'clock morning - - - - -	53	49 $\frac{1}{2}$	44
At 1 o'clock P.M. - - - - -	69 $\frac{1}{2}$	65 $\frac{1}{2}$	60 $\frac{1}{2}$
At 6 o'clock evening - - - - -	60	56 $\frac{1}{2}$	51
Perpendicular wall of freestone, at 6 o'clock morning - - - - -	56 $\frac{1}{2}$	50	45 $\frac{1}{2}$
At 10 o'clock P.M. - - - - -	71	66	62
At 6 o'clock evening - - - - -	61 $\frac{1}{2}$	57 $\frac{1}{2}$	52 $\frac{1}{2}$
Perpendicular brick wall, at 6 o'clock morning -	55 $\frac{1}{2}$	50	45
At 1 o'clock P.M. - - - - -	76	69	65 $\frac{1}{2}$
At 6 o'clock evening - - - - -	63	57	52 $\frac{1}{2}$

"The sloping black wall is considerably colder in the night than the perpendicular whinstone wall; for August, 1 $\frac{1}{2}$ degree on the mean; for September, 2 $\frac{1}{2}$ degrees; for October, 2 degrees; it having been those two only that have been compared with the thermometer that indicates the minimum degree of temperature.

"At six in the morning, the freestone is the warmest; for August, 1 degree warmer than the brick, 4 degrees warmer than the black painted wall, 3 $\frac{1}{2}$ warmer than the whinstone. The brick is the warmest, at one o'clock, of all the kinds. In September, it is 3 degrees above any of the other kinds, the black sloping and freestone being, in that month, 3 degrees lower, and the whinstone 3 $\frac{1}{2}$ degrees below the brick. The differences may easily be observed by comparison above."

The evident greater escape of heat by radiation from the sloping wall during the night, suggests the idea of having fruit walls furnished with a broad coping, which would be capable of being speedily extended or retracted. It might be also necessary to ascertain what sort of materials are best adapted for preventing radiation; for instance, wood lined with some sort of woollen material. In dry warm weather, coping of any sort, except what is merely sufficient for protecting the structure of the wall itself, is better dispensed with.

It is to be hoped that these experiments will be continued by the Caledonian Horticultural Society, and with the addition of maximum and minimum registering thermometers, on the various substances of which their walls are composed. Such might also be compared with others of the same sort placed in the open ground.

There is not much to be remarked in regard to the fruits noticed in the printed abstract published by this Meeting as having been proved in the garden, farther than that they are well described, and when more and better varieties, of which the collection must contain many, come to be treated in the same able manner, the accounts will be very interesting.—*R. May, 1835.*

ART. II. Retrospective Criticism.

AN Index to the First Ten Volumes of the Gardener's Magazine.—I am glad to see, on the cover of your Number for March, that I have not been the only one that has recommended an index to the first ten volumes of your Magazine; and I think, if all your close and attentive readers were to express themselves upon the subject, that the Cornish motto, "One and all," in favour of it would flow in from all quarters. A good thing, once begun, ought to be

persevered in. It was good on your part to contemplate the measure, and better still to commence it; but bad, very bad, afterwards to decline it. Still I have a hope that a death-blow has not been given to it, although you do not pledge yourself to carry it into effect. Only publish these few lines, and I will venture to say that you will be harassed from all quarters, until a full promise be extracted from you for its completion. Give me leave to suggest a hint upon the mode you may adopt to carry it into execution with ease to yourself, and which, in the end, will be equally availing for the use of your readers; namely, to publish a few pages of it monthly at the end of your Magazine, which may ultimately be detached and bound up together. I could say much upon the utility of such an index, not only as to the convenience it would produce to your correspondents, but also as to the value it would add to your Magazine; but I will forbear. — *T. Rutger. Portland Place, June, 1835.*

Without a glazed Pit to protect the Roots of Pelargoniums and other Green-house Exotics during Winter, a Flower-Garden can never be worth anything. (p. 285.) — This is your dictum; but tastes differ. I think that, were I in a condition to have a flower-garden, I would not have a pit, or any means of shelter whatever. There is a sufficient number of ornamentally flowered plants, as hardy as Laplanders, to render a garden beautiful throughout the year. — *J. London, June, 1835.*

ART. III. *Queries and Answers.*

RICHARD Anthony Salisbury, F.R.S. L.S. H.S. &c. — It has often struck me with surprise that that celebrated botanist and horticulturist, Richard Anthony Salisbury, Esq., should have passed into his grave without one single memorial of him from the members of the Linnæan or Horticultural Societies, which I consider as a great disgrace to these two Societies, to whose communications he was so often so valuable a contributor. I hope that some member who knew Salisbury well, and there are many such, will come forward and give an account of his life, his long labours, &c. I have had the greatest difficulty to find out the time of his death. Magazines and newspapers I searched in vain: my last resource was to the landlord of the house where he lived; and, fortunately, there I was successful. He told me he was buried in Paddington churchyard. Thither I went, and got the parish clerk to copy the inscription on his tombstone, which is as follows: — “In this tomb rest the mortal remains of Richard Anthony Salisbury, Esq., formerly of Chapel-Allerton, in the county of York, and latterly of London, who was born on the 2d day of May, in the year 1761, and died on the 23d of March, 1829.”

I have thus contributed my mite, and hope it will stimulate others to add theirs, and not to suffer the name of Salisbury to pass into oblivion without “some frail memorial.” — *M. H. London, June 22. 1835.*

Salisburya adiantifolia. — The male tree is now (May 1.) in flower against a wall in Kew Garden; and, as a standard, in the grounds of a house adjoining the Mile End Nursery. We should be glad to know if it has flowered any where else in England this season, or at any former period. As far as has been observed, the parent male tree in the Mile End Nursery has never flowered. The tree in the grounds adjoining has been much injured in the trunk, which may have operated upon it like ringing, and be one cause why it has flowered. Another cause may be, that it is shaded and overtopped by other trees on one side, which has consequently thrown the whole of the energies of the tree into a lateral branch; which branch is extended far beyond all the others on the open side of the tree; and it receives the reflected heat of the south front of a house, from which the branches are only distant a few yards; and on the extremity of these branches the blossoms are chiefly found. A small tree at Strasburg, which blossomed in 1828, was nearly in the same circumstances: it was overtopped by a large poplar, and the blos-

soms were only produced on the point of a shoot which had stretched out from under those of the poplar, and had reached the free air, where it enjoyed the direct influence of the sun. The only female salisburia in England, that we know of, is in Kew Gardens; but it has never flowered. All the female salisburias in Europe, M. Alphonse DeCandolle informs us, have been propagated from one tree, which his father discovered, fifteen or eighteen years ago, in a garden at Bourdigny, in the neighbourhood of Geneva. The history of this tree, if it could be procured, would be extremely interesting. M. A. DeCandolle has kindly promised to visit the garden, and examine the tree this season, and, if it flowers, to send us specimens or drawings. In the meantime, we would suggest to every possessor of a large salisburia, whether in England or on the Continent, to examine it with a view to ascertaining whether it has produced flowers this season. It is not perfectly certain that the tree is diœcious; and there may, therefore, be trees in England that produce both male and female flowers. It is not easy to understand how a female tree got to Geneva, unless the first introduction of this tree to Europe, or any subsequent introduction, was by seeds. In the meantime, we recommend possessors of male salisburias to bud or graft the female on them. They take readily by grafting, as we proved in 1831; having put on five scions, all of which succeeded. We have now at Bayswater a handsome tree, 15 ft. high, with two leading shoots, one of which is female and the other male. Messrs. Loddiges have plants of the female salisburia for sale, which they grafted from scions sent by M. DeCandolle, two years ago. About thirty years since, they raised one plant of salisburia from seed; but they are not aware to whom they sold it.

Where are the largest salisburias in France, Italy, and Germany? Have they flowered? If so, where? when? at what age? What was the height of the tree? and were the flowers male or female? We should be greatly obliged to any of our foreign correspondents who would answer these questions. These queries are, in several particulars, too late for this season; but we hope they will be carefully attended to next year. — *Cond.*

Magnòlia. — Where are the largest specimens in France, Italy, and Germany? Mention the species, the locality, the dimensions, the number of years planted, and whether they flower and ripen seed, or flower only.

Liriodéndron. — The same questions asked respecting this tree. — *Cond.*

The Newington Peach. — In *Manning and Bray's Surrey*, iii. 449., I find the following passage: — "Peaches and nectarines adhering to the stone obtained the name of Newington from having been first cultivated and brought to perfection at Newington Butts." Is this the fact? — *H. B. London, Aug. 6. 1834.*

ART. IV. *London Horticultural Society and Garden.*

MAY 19. 1835. — *Exhibited.* Azàlea índica phœnícea, Diósma capitàta and rùbra, Chorózema Henchmánni, Calceolària Plùto, Cèreus phyllanthòides, Ackermánni, Ack. màjor, and a hybrid kind; Cypripedium parviflorum and spectàbile; from Mrs. Lawrence. Sweeney Nonpareil apples, from T. N. Parker, Esq. A newly introduced species of Kennèdyà (glabràta) from Mr. Joseph Knight. O'xalis Pióttæ, from Mrs. Marryat. Heartseases, from Mr. Hogg, Paddington. Ardísia hymenándra, Calánthe veratrifòlia, Grevillea seríceà, Azàlea pùlchra and ledifòlia, Saponària ocymòides, Hypóxis stellàris, Rhodánthe Manglèsü, Anisánthus spléndens, Nycterínia lychnídea, Talaúma (Magnòlia) pùmila, Mímulus; Calceolària viscosíssima, Herbertiàna, lanàta, Yoúngü speciósa, and six other kinds; Cýtisus nubígenus; from Messrs. Young of Epsom.

From the Garden of the Society. Aristolòchia trilobàta, Maxillària aromàtica, Anisánthus spléndens, Collòmia coccínea, Clématis montàna, Lashènia califórnicà, Leptosiphon androsàceus; Lupinus Sabiniànus, rivulàris,

and álbfirons; *Collinsia* bicolor, *Cérasus Capóllin*, *Ròsa Báncsiæ* lútea and índica centifólia, *Collétia* spinósa, *Edwárdsia* grandiflóra, *Wistària* Consequàna, *Cratægus* *Oxyacántha* ròsea supérba, *Bérberis* sínénsis; *Ribes* inèbrians, speciósum, and multiflórum; *Pæònia* *Móutan* Báncsi, other pæonies and azaleas.

June 2. — *Read.* A communication upon the premature death of parts of branches of the Moorpark apricot tree and some other wall-fruit trees; by T. A. Knight, Esq., president. [See notices of this disease, in IX. 723, X. 188.]

Exhibited. French crab, Norfolk storing, Norfolk paradise, and Ord apples, from Mr. Joseph Kirke. Asparagus from beds only two years old, and plants one year old when planted, from John Allnutt, Esq. Five seedling calceolarias, from Mrs. Lawrence. Heartseases, from Mr. Hogg of Paddington. *Cymbidium* lancifolium, *Dendrobium* macrostachyum, from J. Bateman, Esq. *Amaryllis* solandraciflora var., from N. H. Nugent, Esq. *Mesembryanthemum* rubrocinctum and various species, *Verónica* decussata, *Pittosporum* *Tobira*, *Véstia* lycioides, *Gorteria* rigens, *Anthyllis* Bárba Jòvis, and various species of *Iris*, from the Earl of Ilchester.

Also, from the Garden of the Society. *Camassia* esculenta, *Mimulus* Smíthii, *Gilia* achilleafolia, *Collomia* coccinea, *Eschscholtzia* crócea, *Collinsia* bicolor and grandiflora, *Solanum* crispum; *Pentstemon* ovatus, *Scoúleri*, and procérus; *Wistaria* Consequàna; *Lupinus* polyphyllus and the light-corollaed and white-corollaed varieties, tomentósus and five varieties, álbfirons, grandifolius, and rivulàris; *Pæonia* officinàlis var. *anemoniflora* and off. double var.; *Æsculus* cárnea, rubicúnda, and pállida; *Pàvia* rùbra, r. parviflora, fláva, hùmilis, and hýbrida; flowers of rhododendrons, azaleas, Scotch roses, and China roses.

Exhibition at the Garden, on Saturday, June 6. — The following is a copy of the Society's statement of the award of the judges: —

The Gold Banksian Medal. — 1. For a miscellaneous collection of fruits, from Mr. John Willmot of Isleworth, F.H.S.; 2. For orchideous plants, from Messrs. Rollisson of Tooting; 3. For a miscellaneous collection of plants, from Mrs. Lawrence, F.H.S.

The Large Silver Medal. — 1. For grapes, cucumbers, and strawberries, from Mr. Brown of Acton Green; 2. For shaddocks, from Sir C. Cockerell, Bart., F.H.S.; 3. For pines, from Mr. James Davis, gardener to T. Gutterson, Esq., of Enfield; 4. For azaleas, from Mr. Rivers of Sawbridgeworth; 5. For pelargoniums, from Messrs. Colley and Hill of Hammersmith; 6. For a miscellaneous collection of plants, from Mr. John Green, gardener to Sir E. Antrobus, Bart., F.H.S.; 7. For a miscellaneous collection of plants, from Messrs. Rollisson of Tooting.

The Silver Banksian Medal. — 1. For peaches and nectarines, from P. D. Cooke, Esq., F.H.S.; 2. For strawberries, from Mr. Lane, gardener to J. H. Palmer, Esq., F.H.S.; 3. For green-fleshed melons, from Mr. Loudon, gardener to S. Gurney, Esq., F.H.S.; 4. For twelve pelargoniums, from Mr. Gaines, Surrey Lane, Battersea; 5. For miscellaneous pelargoniums, from Mr. Cock of Chiswick; 6. For heartsease, from Mr. Mountjoy of Ealing; 7. For heartsease, from Mrs. Lawrence, F.H.S.; 8. For calceolarias, from Mr. John Green, gardener to Sir E. Antrobus, Bart., F.H.S.; 9. For *Diósma* rùbra, from Mrs. Lawrence, F.H.S.; 10. For *Erica* depréssa, from John Allnutt, Esq., F.H.S.; 11. For *Deutzia* scàbra, from T. C. Palmer, Esq., F.H.S.; 12. For miscellaneous roses, from Mr. George Leslie, gardener to John Fleming, Esq., F.H.S.; 13. For *Cypripedium* Calceolus, from N. H. Nugent, Esq., F.H.S.; 14. For *Clíanthus* puníceus, from W. Leveson Gower, Esq., F.H.S.; 15. For cockscombs, balsams, &c., from Mr. George Mills, F.H.S., gardener at Gunnersbury Park, Acton; 16. For calceolarias, from Messrs. Brown of Slough; 17. For miscellaneous pelargoniums, from Messrs. Colley and Hill of Hammersmith; 18. For a miscellaneous collection of plants, from Mr. Lane, gardener to J. H. Palmer, Esq., F.H.S.; 19. For *Brugmànsia* arbórea, from Mr. R. Clarke, gardener to

Sir James Lemon, Bart.; 20. For miscellaneous pelargoniums, &c., from Mr. Gaines, Surrey Lane, Battersea.

June 16. — *Presents.* Among these, is a "Notice sur les Graines de l'Ananas," presented by the author, M. De Candolle, F.M.H.S.

Exhibited. An orchideous plant, unnamed, from Messrs. Rollisson. *Pæonia albiflora* Humei and *albiflora* fragrans, from Sir A. Hume, Bart.

Also, from the Garden of the Society. *Cynoches Loddigèsii*, *Alstræmèria pulchella* and *aurea*, *Lupinus ornatus*, *Antirrhinum majus* double var., *Málva purpurata* and *Monroana*, *Chelone centranthifolia*, *Eschscholtzia crœcea*, *Láthyris grandiflora*, *Bignônia capreolata*, *Collinsia bicolor*, *Gilia tricolor*; *Wistaria Consequana*, from a standard; *Jasminum revolutum*, *Delphinium grandiflorum*, *Eriophyllum cæspitosum*, *Brodiaea congesta*, *Hesperoscórdum lacteum*, *Stenactis speciosa*, *Hosackia bicolor*; these varieties of *Pæonia albiflora*, *Reevèsii*, fragrans, *Whitlèji*, *Humei*; Spanish iris, *Phacelia* sp. Douglas, hybrid gladiolus, Chinese and other roses.

The next exhibition at the Society's garden is to be held on July 4.

ART. V. Covent Garden Market.

'The Cabbage Tribe.		From	To			From	To
		£ s. d.	£ s. d.			£ s. d.	£ s. d.
Cabbage, White, per dozen	-	0 0 8	0 1 0	<i>Pot and Sweet Herbs.</i>			
Cauliflowers, per dozen	-	0 1 6	0 5 0	Parsley, per half sieve	-	0 1 6	0 2 0
<i>Legumes.</i>				Tarragon, per dozen bunches	-	0 6 0	0 0 0
Peas { per sieve	-	0 2 6	0 4 0	Fennel, per dozen bunches	-	0 2 0	0 0 0
{ per sack	-	0 7 0	0 10 0	Thyme, per dozen bunches	-	0 2 6	0 0 0
Beans, Windsor, per ½ sieve	-	0 1 6	0 0 0	Sage, per dozen bunches	-	0 2 0	0 0 0
Kidneybeans, forced, per hund.	-	0 2 0	0 2 6	Mint, per dozen bunches	-	0 1 6	0 2 0
<i>Tubers and Roots.</i>				Peppermint, dry, per doz. bun.	-	0 1 0	0 1 6
Potatoes - { per ton	-	1 10 0	2 0 0	Marjoram, per dozen bunches	-	0 3 0	0 0 0
{ per cwt.	-	0 1 6	0 2 0	Savory, green, per dozen bun.	-	0 2 0	0 0 0
{ per bushel	-	0 1 0	0 1 3	Basil, green, per doz. bunches	-	0 4 0	0 0 0
Kidney	-	0 1 3	0 1 6	Rosemary, per dozen bunches	-	0 4 0	0 0 0
Scotch	-	0 1 0	0 1 3	Tansy, per dozen bunches	-	0 1 0	0 0 0
New, per pound	-	0 0 3	0 1 0	<i>Stalks and Fruits for Tarts,</i>			
Turnips, White, per bunch	-	0 0 3	0 0 6	<i>Pickling, &c.</i>			
Carrots, per bunch:				Rhubarb Stalks, per bundle	-	0 0 9	0 1 0
Young	-	0 0 6	0 1 0	<i>Edible Fungi and Fuci.</i>			
Horn	-	0 0 8	0 1 0	Mushrooms, per pottle	-	0 1 0	0 1 6
Horseradish, per bundle	-	0 1 6	0 4 0	Morels, per pound	-	0 16 0	0 0 0
Radishes:				Truffles, per pound:			
Red, per dozen hands (24 to 30 each)	-	0 0 6	0 0 9	English	-	0 14 0	0 0 0
White Turnip, per bunch	-	0 0 2	0 0 0	Foreign	-	0 16 0	0 0 0
<i>The Spinach Tribe.</i>				<i>Fruits.</i>			
Spinach, per sieve	-	0 1 0	0 1 3	Apples, per bushel:			
<i>The Onion Tribe.</i>				Baking	-	0 6 0	0 8 0
Onions:				French Crabs	-	0 12 0	0 14 0
when green (Ciboules), per bunch	-	0 0 3	0 0 6	Peaches, per dozen	-	1 0 0	1 16 0
Garlic, per pound	-	0 0 6	0 0 10	Nectarines, per dozen	-	1 0 0	1 16 0
Shallots, per pound	-	0 0 8	0 1 0	Cherries, per pound	-	0 0 4	0 0 6
<i>Asparaginous Plants, Salads, &c.</i>				Wall, Dukes	-	0 3 0	0 4 0
Asparagus, per hundred:				Circassians	-	0 10 0	0 12 0
Large	-	0 4 0	0 5 0	Gooseberries, per half sieve	-	0 3 6	0 7 0
Middling	-	0 1 6	0 2 6	Strawberries, per gallon (2 pottles), about 3 pints	-	0 0 6	0 1
Small	-	0 0 9	0 1 3	Pine-apples, per pound	-	0 6 0	0 12
Lettuce, per score:				Grapes, Hot-house, per lb.:			
Cos	-	0 0 6	0 1 0	Black	-	0 4 0	0 7 0
Cabbage	-	0 0 6	0 0 8	White	-	0 6 0	0 10 0
Celery, per bundle (12 to 15)	-	0 1 0	0 1 6	Cucumbers, frame, per brace	-	0 1 0	0 2 0
Small Salads, per punnet	-	0 2 0	0 0 0	Oranges { per dozen	-	0 1 6	0 3 0
Watercress, per dozen small bunches	-	0 0 4	0 0 6	{ per hundred	-	0 10 0	0 16 0
				Lemons { per dozen	-	0 0 9	0 1 6
				{ per hundred	-	0 6 0	0 12 0
				Brazil Nuts, per bushel	-	1 4 0	0 0 0
				Barcelona Nuts, per peck	-	0 6 0	0 0 0
				Turkey Nuts, per peck	-	0 5 0	0 0 0

Observations. — In the early part of the present month, we had continued rains and cold nights, which had the effect of materially retarding the supplies

to the market usually found at this season. The weather has been, within the last ten days, much more favourable; and we have had an excellent supply of most articles. The early varieties of peas, which, in the last report, were quoted as yet scarce, are now nearly over; and we have abundance of the later sorts in good supply. The endeavour of the growers to bring forward, at this season, all the varieties simultaneously, materially defeats their own purpose; as it produces a superabundance at one period, and leaves a vacuum for some time after, until supplied by the crops from the more distant and late districts. The observations in my former remarks as to the supply of vegetables to the markets of the capital, may be fully warranted by the simple statement of a few items as actually sold during the last week:—of peas, more than 2500 sacks of three bushels, and 12,000 sieves of one bushel each; of gooseberries, 2000 sieves; of strawberries, 150,000 pottles. This is merely at one market, and quite independent of cauliflowers, cabbages, lettuces, and all other vegetables and fruits, of which there have been corresponding quantities furnished. New potatoes have as yet come to hand very sparingly; but we have had some quantities from time to time from Cornwall by steam. The stock of old is by no means exhausted. — *G. C. June 22. 1835.*

ART. VI. *Obituary.*

DIED, on the 3d of May last, *James Frost*, of the Exotic Nursery at Lillington, near Leamington Priors, Warwickshire, aged 38. His whole life had been devoted to the study and practice of horticulture and botany. He was some years at the nursery of Messrs. Lee and Kennedy, which must have been at a very early period of his life; for he was afterwards foreman of Mr. Knight's nursery at Chelsea for five years, and then served in the same capacity at Mr. Cullis's nursery at Leamington for seven years. His family now rapidly increasing, he thought proper to enter into business on his own account, for which the knowledge acquired in his previous labours, his indefatigable industry and assiduity, great integrity, and cheerful frankness of manner, qualified him in no ordinary degree. The establishment at Lillington was commenced between two and three years since. This, of course, was not on a large scale; but it was fixed on a well chosen spot, and, as far as I can judge, was conducted with much spirit and judgment. In a very short time, Mr. Frost had collected a great number of valuable plants, in the propagation of which he was very successful. The difficulties of the enterprise were now nearly surmounted, and he was cheered with the hope of acquiring a respectable competence for his numerous family, and his friends were rejoicing in his success, when all these bright prospects were thrown into the darkest shade: he was attacked by an apoplectic fit, perhaps brought on by over-anxiety and exertion. From this, however, he was recovering, though, of course, much weakened by the remedies applied, when, unfortunately, his foreman being laid up with a very severe illness, Mr. Frost, probably too anxious for the welfare of his family, and impatient that his workmen should stand still for want of a director, ventured out, notwithstanding his weak state, in very inclement weather. An inflammation of the lungs was the consequence; and in one short week from this time, he was a corpse, leaving a wife and eight children, the eldest of whom is about fourteen. It is proposed to carry on the concern for their benefit; and, as the present foreman seems possessed of many good qualities, I hope there is a reasonable prospect of success. There seems much in this case to excite the sympathy, and prompt the assistance, of the benevolent; and I hope and I believe that numerous parties will visit this nursery, attracted no less by a desire of doing a kind action than by their love of flowers. — *S. Freeman. Ryton, near Coventry, June 8. 1835.*

THE
GARDENER'S MAGAZINE,
AUGUST, 1835.

ORIGINAL COMMUNICATIONS.

ART. I. *Some Account of the Arboretum lately commenced by His Grace the Duke of Devonshire, at Chatsworth, in Derbyshire.*
Communicated by His Grace's Head-Gardener and Forester there,
Mr. PAXTON, F.L.S. H.S. &c.

THE arboretum at Chatsworth was only commenced last spring (1835), though a pinetum had been planted there some years ago. There are two modes by which arboretums may be formed: one is by distributing the trees and shrubs over a surface in the manner in which trees are planted in a park or pleasure-ground, as is done in the arboretum of the Horticultural Society's garden at Chiswick; and the other by distributing the trees and shrubs along one or both sides of a walk, somewhat in the manner done in the arboretum of Messrs. Loddiges at Hackney. The first mode is calculated for universal use; because by it the smallest place, if it contains only a quarter of an acre, may, as far as that space permits, be made an arboretum, simply by planting no duplicates of either trees or shrubs. Small places of two or three acres may contain most interesting arboretums; and, indeed, by omitting the larger poplars, elms, and willows, and by excluding in a great measure such species and varieties as bear a close resemblance to each other, a country residence of three acres, planted without duplicates, may exhibit a very tolerable arboretum. When, however, we come to a place of ten acres, twenty acres, thirty acres, or upwards, a most interesting display may be made; and it is not too much to say that a country residence of a hundred acres, if planted without duplicates, or if planted with duplicates to be cut down at a proper season, would display a complete arboretum. The larger-growing trees could not be allowed to attain their full size in such an arboretum; but they would have space to grow large enough for all the ordinary purposes of ornament and enjoyment. If the proprietors of small places, or their

wives or daughters, only had a little taste for trees and shrubs ; if they had only as much as might be imbibed by paying occasional visits to the Horticultural Society's garden, they might make these places little paradises. In another generation, when all ranks and descriptions of persons shall be better educated than they now are, and when botany and natural history will form as much a part of general education as writing and arithmetic do at present, then every country residence, whether large or small, will be what is technically called an arboretum ; that is, it will be planted, not with half a dozen sorts of trees, and twenty or thirty sorts of shrubs, as is now generally the case, but with all the sorts which the British nurseries can afford. We have seen, in p. 163., that a collection of above 100 species of trees and shrubs may be planted in a suburban garden of a quarter of an acre ; and we shall hereafter give plans and lists for residences of various degrees of extent, from that size up to a thousand acres. This manner of planting country residences will bring landscape-gardening, as an art, to a far higher degree of refinement than it has hitherto attained, or than its professors have contemplated ; and it will raise the beauty of the country residences of England as much above the degree which they have attained at present, as that degree is above the beauty of the country residences of every other part of the world. Every thing is making progress towards these desirable results : we only wish that progress were a little accelerated, in order that, in our day, we might enjoy some of its effects. The example of the great and wealthy will contribute to this purpose, for which reason we rejoice in the idea of an arboretum, on a large and comprehensive scale, having been commenced at such a place as Chatsworth, one of the most magnificent in England, centrally situated, and, with a degree of liberality and impartiality which never can be sufficiently commended, open every day in the year, and shown to all persons, rich and poor, without exception. The arboretum at Chatsworth will thus be seen by thousands, who, perhaps, going there principally with a view of seeing the waterworks, will come away not only with a remembrance of them, but with the first germs of a taste for trees and shrubs, which they would probably have never possessed under other circumstances. A taste thus created, however slight it may appear at first, will create a desire for seeing similar objects to those which first called it forth, and it will increase with every opportunity that occurs for its gratification.

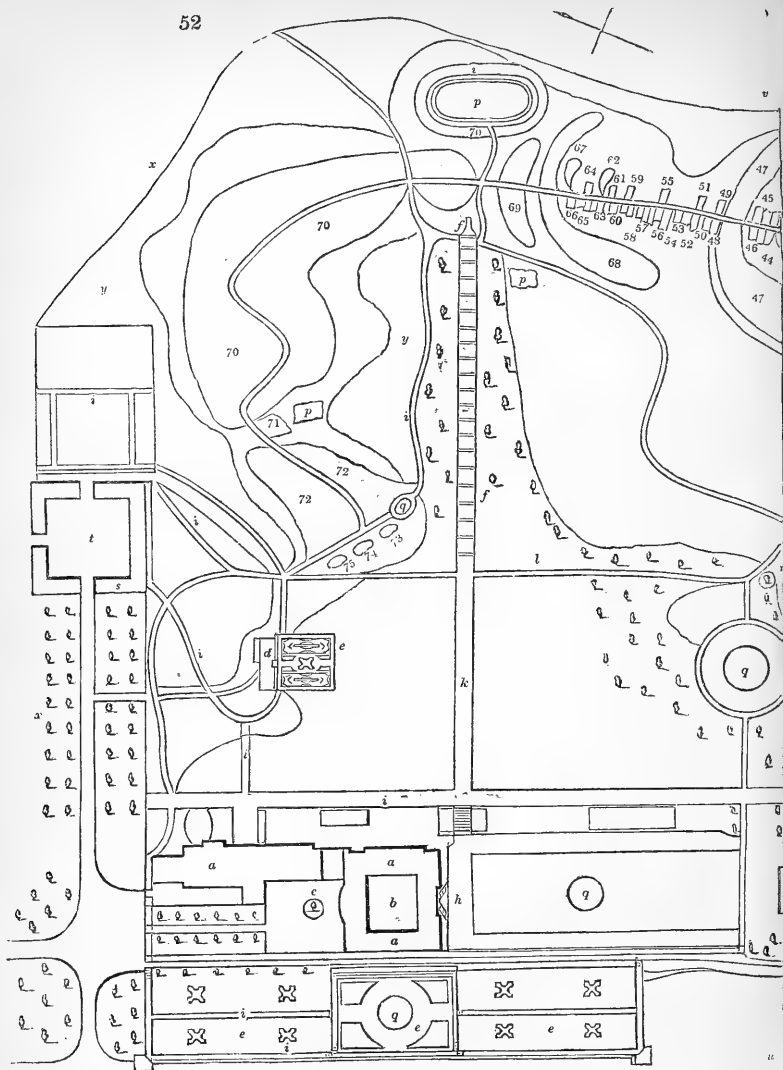
We have already stated that small places, especially those that are about to be made or planted, may all be constituted arboretums. Large places, which are to be formed or planted, may also be made arboretums exactly on the same principle ; viz., by planting duplicates, or several plants of a species or

variety, or by planting entire masses of each species and variety, according to the extent of the place. But, supposing it desirable to plant an arboretum at a very large place, such as Woburn Abbey, Alnwick Castle, Wentworth House, Welbeck Abbey, Clumber House, Tatton Park, Tottenham Park, or Chatsworth, and a hundred such places already fully planted, how is this to be done? Simply by cutting out some of the trees and shrubs already there, and planting kinds not there in their stead; allowing sufficient space for their heads, trenching the soil, and otherwise preparing it properly, for their roots at planting; and cutting down the existing trees and shrubs yearly, or every two years, and extending the space trenched, as the newly introduced trees and shrubs advance. By this mode of proceeding, the newly introduced trees and shrubs might either be generally distributed over the park and pleasure-ground, or a walk or drive might be formed (if one sufficiently long did not already exist), and the trees and shrubs planted along one or both sides of it. This last is the mode which has been adopted at Chatsworth, as will appear with sufficient clearness by inspecting the general plan of the grounds (*fig. 52.*), given in pages 388. and 389., the explanation of which is at the bottom of the same pages. In this plan the arboretum walk makes a general circuit of the pleasure-ground, commencing at the house (*a*), and terminating near the plant stove and its flower-garden (*d e*). The first part of the arboretum walk, from the house to the letter *o*, will be planted on each side with a collection of herbaceous plants, arranged according to the order of the natural system; and we see no reason why this should not be the most complete collection in Europe. The arboretum commences at the letter *o*, and proceeds through spaces indicated by outlines, and marked by numbers, till from 1 it reaches 75. The outlines merely mark the present boundaries of the present orders; but, when the work is completed, the trees and shrubs will extend nearly over the whole space included within the general outline of the arboretum, which is marked *y*.

Mr. Paxton, who, with His Grace the Duke of Devonshire's permission, kindly furnished us with this plan, observes that, as it was made from actual measurements, all of which have not been proved, some parts of it may not be very correct; but that, on the whole, it will be found sufficiently so for the object in view. From the largeness of the place, and the necessarily small scale on which it required to be drawn to suit our pages, the details of the flower-gardens about the house, and in front of the plant stove (*d*), cannot even be indicated. The arboretum part of the map has been most studied; and that will be found correct, though on so small a scale.

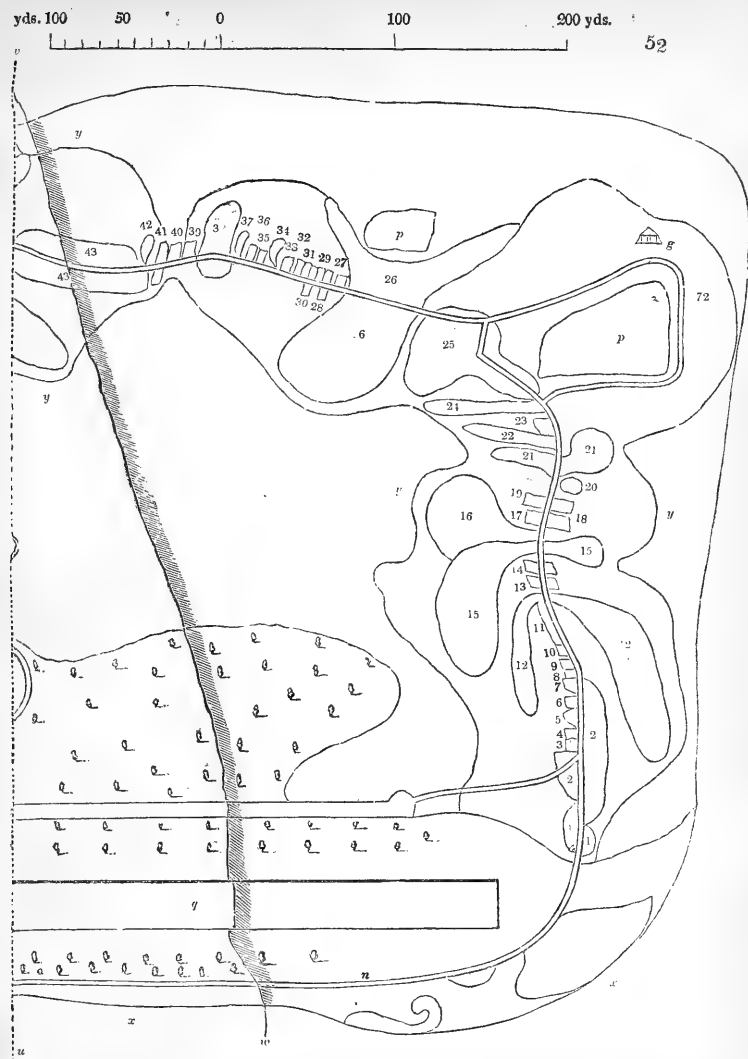
The arboretum commences with 1. *Ranunculaceæ*, and ends

52



- a*, The house. *b*, Court-yard. *c*, The large weeping ash. *d*, Plant stove. *e*, Geometrical flower-garden, in front of the stove. *f*, Cascade, the water of which is supplied by the pond at the back. *g*, Grotto. *h*, Terrace walk. *i*, The general walks about the grounds. *k*, Walk from the house to the cascade. *l*, Walk leading to the willow tree. *m*, The situation of the willow tree. *n*, The arboretum walk. *o*, Commencement of the arboretum. *p*, Ponds for supplying the different fountains. *q*, The different fountains.

with 75. *Tulipæcæ*, as will appear by the plan, (*fig. 52.*), and the list which concludes this article. The links which form the chain of orders are put together in the same succession as in our *Hortus Britannicus*; but there is no absolute necessity for adhering



r, Ground used as a nursery garden, and for propagation of half-hardy, hardy, and green-house plants.
 s, Stables. z, Stable-yard. u v, Horizontal lines. w v, Lines representing the surface of the ground, inserted by Mr. Loudon from recollection, in order to give persons who have never been at Chatsworth some idea of the steepness of the surface of the greater part of the grounds.
 x, The park. y, General outline of the arboretum.

rigidly to this succession, provided the grand divisions are kept by themselves. It is more convenient, however, where it can be done, to adhere to an order of succession already recognised by botanists; and that given by De Candolle, and followed by

us in our *Hortus Britannicus*, and in our *Arboretum Britannicum*, seems preferable to any less generally known.

Mr. Paxton remarks that round the pond, at the grotto (g, *fig. 52.*), is the warmest place about Chatsworth; and that there a pinetum was commenced some years ago. "We have," he says, "made this pinetum complete; and have, therefore, only put such hardy and common kinds of Coníferæ in their proper place [at *p*, near 72. in *fig. 52.*] as we could readily procure. This is the only deviation from the arrangement in your *Hortus Britannicus*; and I consider it of no importance, as it does not interfere with the pinetum. The salicetum is planted round a pond [*p*, near 70.]; a situation which suits willows admirably.

"Previously to the commencement of the arboretum, the whole space which it occupies, from 1. to 75., was covered with timber trees: these we have cleared away, so as to suit each genus with light, shelter, or shade, as it might require. The situation, though so much elevated, is yet, by the existing trees, so well sheltered, that, with this aid, our deep trenching, and the supply, when necessary, of peat or sandy soil, the plants, in a few years, will have made immense progress. There are about 1670 species and varieties already planted; and these will be increased, in a year or two, to about 2000. The whole length of the walk occupied with the arboretum is nearly a mile. The various bends in the walk may be accounted for by the unevenness of the ground, and its steepness in many places. The plants of those orders, the ligneous species of which do not grow large, such as Crucíferæ, Cistinéæ, &c., are planted near to the walk, and occupy both sides of it; and the larger ones, although planted similarly along both sides of the walk, are made to extend beyond the others to a considerable distance from it, as the bare inspection of the plan will show. The whole are planted at such distances from each other as their habits of growth require. Should 2000 more hardy trees and shrubs than can at present be purchased in the nurseries be introduced, there is plenty of space on each side of the walk to plant them. It is rather difficult to say exactly how much ground the plants at present occupy, as we have not measured it; but I think the 75 groups cover about 40 acres.

"It is a great feature in this business, that the ground, the plants, the formation of the walk, the labour, &c., have not cost His Grace sixpence; the plants having been purchased, the ground prepared, and the trees planted, and all other expenses paid, with the produce of the trees cut down to make room for the walk and the groups. This you should, in some degree, point out to gentlemen who wish to introduce such an important feature as an arboretum in their country seats. At nine places out of ten, throughout the country, an arboretum might be accomplished on this plan: and I scarcely know a country seat

where half the trees round the house do not require cutting down.

“In recommending arboretums to those who have got but a limited extent of ground, you should advise them not to plant varieties. We intend doing so, because our space is unlimited : but, if this practice were to become general, the nurserymen would soon furnish us with catalogues of 20,000 species and varieties ; which would put a damp to arboretums at once, from the impossibility both of purchasing the plants, and of finding room for them : and besides, in a few years, the species and varieties would be so confounded, that they would, in many cases, not be distinguishable from each other. I shall keep a young man constantly examining the trees and shrubs in our arboretum, till I have removed every thing from it that is not perfectly distinct, and rendered it in every respect as perfect as it can be made.”

The plants will be named on wooden tallies, in the form of the letter T. These tallies will be made out of heart of oak, which is first steamed in order to draw out any sap which it may contain, and next boiled for a long time in linseed oil. After this the tally receives three coats of black paint, and when this is perfectly dry the names are written in white paint. The size of the tallies will vary according to the size of the plants ; but the smallest of them will be sufficiently large to admit of the names being read at 10 yards' distance, and the largest ones, which of course will be placed in front of the largest trees, and these will naturally be farthest from the walk, may be read at 20 yards' distance or more. Each tree or shrub will have its scientific name on the first line ; its native country on the second line ; its year of introduction, and the height it attains in its native country, on the third line ; and its English name, and the year in which it was planted in the arboretum, on the fourth and last line. At the commencement of every order, sub-order, or tribe, there will be an extra large tally, containing the name of the order, and the sub-order, or tribe, in conspicuous characters ; and, in order to distinguish these, at a distance, from the tallies containing the names, they will be painted white, and the letters black.

Chatsworth, June 10. 1835.

WITH Mr. Paxton's remarks on the subject of varieties, we entirely concur. The frivolous distinctions made by some nurserymen, with a view of getting something new, which they hope will, at least, be in demand among the trade, is in many cases next to ridiculous ; and we are certain that, in these days, it has the very opposite effect from that which they intend it

should have ; viz., tempting customers. It may, indeed, tempt a few, who have no real taste for trees and shrubs, and who are ambitious of having whatever is new, in order to display their wealth ; but we know, from experience and observation, that, with the great majority of purchasers, the excessive multiplicity of varieties operates as a stumbling-block, puzzles in making a choice, destroys the hope of ever having a good collection, and actually deters from purchasing. It cannot be denied that such has been the effect in the case of roses, gooseberries, apples, pears, and other fruit trees ; and, we believe, more of these articles would be sold, if the catalogues were made more select. In fact, we know this to have been the case as respects roses and gooseberries. In the course of examining the trees and shrubs in the arboretum of the Horticultural Society, and in that of Messrs. Loddiges, we have found a number of mere varieties elevated to the rank of species ; and of the same variety under different names, or so much alike as not to be worth retaining as distinct. This is unavoidable in forming collections like those of the Horticultural Society and Messrs. Loddiges, in which the object is, in the first instance, to bring together specimens of every tree or shrub, pretending by its name to be distinct, though many of these must necessarily be duplicates ; but it will be the great object of our *Arboretum Britannicum* to point out what is really distinct, whether a species or a variety, and to give all the synonymes which we can do correctly ; so as, if possible, to put it in the power of our readers to avoid having the same thing sent to them under different names, or having two things which are not truly and obviously distinct.

While we state this respecting varieties, we wish it not to be forgotten that all the most valuable plants, both of agriculture and horticulture, are varieties of species ; which varieties have been produced either by accident or design, and have been selected by gardeners and nurserymen exactly in the manner which has given rise to the excess of which, in various articles, there is at present just reason of complaint. But it is time to conclude this article, by laying before our readers Mr. Paxton's catalogue of the orders and genera of the trees and shrubs planted, or to be planted, in the arboretum at Chatsworth.

1. *Ranunculaceæ*. *Clématis* 13 sp., *Atragène* 4 sp., *Xanthorhiza* 1 sp., *Pæônia* 1 sp. 10 var.
2. *Magnoliaceæ*. *Magnolia* 8 sp. 10 var., *Liriodéndron* 1 sp. 1 var.
3. *Anonaceæ*. *Asimina* 1 sp.
4. *Menispermaceæ*. *Menispermum* 1 sp.
5. *Berberideæ*. *Berberis* 14 sp. 4 var., *Mahonia* 1 sp.
6. *Cruciferaæ*. *Vella* 1 sp., *Iberis* 4 sp.
7. *Cistineæ*. *Cistus* 22 sp. 6 var., *Helianthemum* 9 sp.

8. *Polygaleæ*. *Polýgala* 1 sp.
9. *Caryophýlleæ*. *Drýpis* 1 sp.
10. *Líneæ*. *Línium* 1 sp.
11. *Malváceæ*. *Hibíscus* 1 sp. 9 var.
12. *Tiliáceæ*. *Tília* 2 sp. 12 var.
13. *Ternströmiáceæ*. *Malachodéndron* 1 sp., *Stuártia* 2 sp.,
Gordònia 1 sp.
14. *Hypericíneæ*. *Hypéricum* 4 sp. 1 var.
15. *Aceríneæ*. *Acer* 29 sp. 8 var., *Negúndo* 2 sp.
16. *Hippocastàneæ*. *Æ'sculus* 3 sp. 18 var.
17. *Sapindáceæ*. *Kölreutèria* 1 sp.
18. *Ampelídeæ*. *Ampelópsis* 2 sp.
19. *Rutáceæ*. *Rùta* 1 sp., *Xanthóxyllum* 2 sp., *Ptèlea* 1 sp.,
Ailántus 1 sp.
20. *Coriarièæ*. *Coriària*, 1 sp.
21. *Celastríneæ*. *Staphylèa* 2 sp., *Euónymus* 7 sp. 4 var., *Ce-
lástrus* 2 sp., *Mygínda* 1 sp., *Ilex* 7 sp. 14 var., *Prínos*
9 sp., *Nemopánthes* 1 sp.
22. *Rhámneæ*. *Zízyphus* 3 sp., *Paliùrus* 1 sp., *Berchèmia* 1 sp.,
Rhámnus 14 sp. 5 var., *Ceanòthus* 3 sp.
23. *Homalíneæ*. *Aristotèlia* 1 sp.
24. *Terebintháceæ*. *Pistàcia* 3 sp., *Rhús* 12 sp. 3 var.
25. *Leguminòsæ*. *Sophòra* 3 sp. 2 var., *Virgília* 1 sp., *Piptán-
thus* 1 sp., *Ulex* 2 sp. 1 var., *Staurocánthus* 1 sp., *Spár-
tium* 7 sp. 4 var., *Genísta* 12 sp., *Cýtissus* 14 sp., *Adenocárpus*
4 sp., *Onònis* 3 sp., *Medicàgo* 1 sp., *Melilòtus* 1 sp., *Dorýc-
nium* 2 sp., *Amórpha* 4 sp., *Robínia* 24 sp. 2 var., *Caragàna*
8 sp., *Halimodéndron* 2 sp., *Colùtea* 6 sp., *Astrágalus* 5 sp.,
Coronílla 1 sp., *Hedýsarum* 1 sp., *Lespedèza* 1 sp., *Wis-
tària* 2 sp., *Acàcia* 1 sp., *Gledítschia* 12 sp. 2 var., *Cércis*
2 sp., *Gymnócladus* 1 sp.
26. *Amygdàleæ*. *Amýgdalus* 8 sp. 1 var., *Pérsica* 5 sp. 1 var.
Armeníaca 3 sp. 1 var., *Prúnus* 44 sp. 7 var., *Cérasus* 3 sp.
26. *Rosáceæ*. *Kérria* 1 sp., *Púrshia* 1 sp., *Spiræa* 25 sp. 1 var.,
Dryas 3 sp., *Rùbus* 20 sp. 9 var., *Potentílla* 2 sp.
26. *Pomáceæ*. *Cratægus* 24 sp. 43 var., *Cotoneáster* 9 sp.,
Amelánchier 4 sp., *Méspilus* 18 sp. 3 var., *Pýrus* 22 sp.
11 var.
27. *Calycántheæ*. *Calycánthus* 5 sp. 2 var., *Chimonánthus* 2 sp.
28. *Granàteæ*. *Pùnica* 1 sp. 6 var.
29. *Tamariscíneæ*. *Támarix* 2 sp.
30. *Philadélpheæ*. *Philadélphus* 8 sp. 3 var., *Decumària* 3 sp.
31. *Passiflòreæ*. *Passiflòra* 2 sp.
32. *Paronychièæ*. *Illécebrum* 3 sp. 1 var.
33. *Ficóideæ*. *Nitrària* 3 sp.
34. *Grossularièæ*. *Ribes* 29 sp. 7 var.
35. *Saxifràgeæ*. *Hydránga* 6 sp.
36. *Umbellíferæ*. *Tenòria* 1 sp.

37. *Araliàceæ*. *Aràlia* 2 sp., *Hédera* 2 sp. 5 var.
38. *Caprifoliàceæ*. *Sambucus* 6 sp. 6 var., *Viburnum* 19 sp. 12 var., *Symphòria* 2 sp. 1 var., *Diervilla* 1 sp., *Caprifòlium* 6 sp., *Lonícera* 11 sp. 9 var.
38. *Córneæ*. *Cornus* 11 sp. 2 var.
39. *Lorántheæ*. *Viscum* 1 sp., *Aucuba* 1 sp.
40. *Rubiàceæ*. *Cephalánthus* 1 sp., *Mitchélla* 1 sp., *Phýllis* 1 sp.
41. *Compósitæ*. *Stæhelina* 1 sp., *Ozothámnus* 1 sp., *Helichrys-um* 1 sp., *Podánthus* 1 sp., *Gamma* 1 sp., *Santolína* 1 sp., *Artemisia* 2 sp.
42. *Vaccinièæ*. *Vaccinium* 37 sp. 5 var., *Oxycoccus* 3 sp.
43. *Ericàceæ*. *Arctostáphylos* 2 sp., *Arbutus* 7 sp. 6 var., *Gaulthéria* 2 sp., *Andrómeda* 17 sp. 18 var., *Lyðonia* 3 sp., *Clèthra* 4 sp., *Erica* 11 sp. 22 var., *Menzièsia* and *Dabœcia* 4 sp. 4 var., *Kálmia* 3 sp. 6 var., *Epigæa* 1 sp., *Rhodora* 1 sp., *Rhododéndron* 15 sp. 27 var., *Azàlea* 19 sp. 130 var., *Ammýrsine* 1 sp., *Chamælèdon* 1 sp., *Lèdum* 4 sp. 1 var., *Itea* 1 sp.
44. *Styracíneæ*. *Styrax* 3 sp., *Halèsia* 3 sp.
45. *Sapòteæ*. *Bumèlia* 4 sp., *Argània* 1 sp.
46. *Ebenàceæ*. *Diospyros* 2 sp.
47. *Oleàceæ*. *Fráxinus* 33 sp. 11 var., *O'rnus* 4 sp., *Chionánthus* 1 sp., *Phillýrea* 6 sp. 1 var., *Syrínga* 4 sp. 6 var., *Ligústrum* 1 sp. 4 var.
48. *Jasminèæ*. *Jasminum* 4 sp. 2 var.
49. *Apocýneæ*. *Gelsémium* 1 sp., *Vínca* 3 sp. 4 var.
50. *Asclepiàdeæ*. *Periploca* 1 sp.
51. *Bignoniàceæ*. *Catálpa* 1 sp., *Bignònia* 1 sp., *Técoma* 2 sp.
52. *Convolvulàceæ*. *Convólulus* 1 sp.
53. *Boragíneæ*. *Lithospérmum* 3 sp.
54. *Solàneæ*. *Solànum* 1 sp. 1 var., *Lýcium* 7 sp.
55. *Scrophularíneæ*. *Búddlea* 1 sp., *Scrophulària* 1 sp., *Verónica* 1 sp.
56. *Labiàtæ*. *Saturèja* 2 sp., *Thýmus* 2 sp., *Hyssòpus* 2 sp., *Teucrium* 2 sp., *Rosmarinus* 2 sp., *Phlòmis* 1 sp., *Stàchys* 4 sp., *Lavándula* 2 sp., *A'cynos* 2 sp., *Sálvia* 2 sp.
57. *Verbenàceæ*. *Vítex* 1 sp., *Aloýsia* 1 sp.
58. *Plantagíneæ*. *Plantàgo* 1 sp.
59. *Chenopòdeæ*. *Chenopodium* 2 sp., *A'triplex* 1 sp., *Diòtis* 2 sp.
60. *Polygòneæ*. *Polýgonum* 1 sp., *Tragopýrum* 2 sp., *Rùmex* 1 sp., *Callígonum* 1 sp.
61. *Lauríneæ*. *Laúrus* 3 sp. 3 var.
62. *Thymelææ*. *Dírca* 1 sp., *Dáphne* 12 sp. 3 var.
63. *Santalàceæ*. *Nýssa* 4 sp.
64. *Elædgneæ*. *Hippóphæe* 5 sp. 2 var., *Shephérdia* 2 sp., *Elæ-agnus* 1 sp.

65. *Aristolochiææ*. *Aristolòchia* 2 sp.
66. *Euphorbiææ*. *Búxus* 5 sp. 5 var., *Bòrya* 3 sp., *Stillíngia* 3 sp., *Euphórbia* 2 sp.
67. *Urticææ*. *Maclùra* 1 sp., *Broussonètia* 1 sp. 2 var., *Mòrus* 9 sp. 3 var.
68. *Ulmææ*. *Plánera* 2 sp., *U'lmus* 25 sp. 13 var., *Céltis* 7 sp.
69. *Juglándeæ*. *Jùglans* and *Càrya* 14 sp.
69. *Garryææ*. *Gárrya* 1 sp.
70. *Salicíneæ*. *Sàlix* 186 sp., *Pópulus* 23 sp.
70. *Cupulíferæ*. *Quércus* 46 sp. 17 var., *Fàgus* 3 sp. 7 var., *Cas-tànea* 4 sp. 4 var. *Cárpinus* 4 sp. 2 var., *O'strya* 2 sp., *Córy-lus* 8 sp. 7 var.
70. *Platànææ*. *Plátanus* 5 sp., *Liquidámbar* 2 sp.
70. *Myríceæ*. *Comptònia* 1 sp., *Myrìca* 2 sp. 1 var.
70. *Betulíneæ*. *Bétula* 1 sp. 10 var., *Álnus* 13 sp. 3 var.
71. *Hamamelídeæ*. *Hamamèlis* 1 sp., *Fothergílla* 3 sp.
72. *Coníferæ*. *Pínus* 55 sp. 5 var., *Salisbùria* 1 sp. *E'phedra* 1 sp. 1 var., *Táxus* 3 sp. 1 var., *Taxòdium* 1 sp. 1 var., *Juníperus* 21 sp. 2 var., *Thùja* 4 sp., *Cuprèssus* 5 sp. 2 var.
73. *Empétreæ*. *E'mpetrum* 3 sp.
74. *Smilàceæ*. *Smilax* 9 sp., *Rúscus* 4 sp.
75. *Tulipàceæ*. *Yúcca* 9 sp.

ART. II. *Directions for drawing Trees and Botanical Specimens from Nature, to any given Scale, and more especially to the Scales adapted to the "Arboretum Britannicum."* By the CONDUCTOR.

SEVERAL of our friends and correspondents having offered to draw trees for us, provided we would instruct them as to how we would wish them drawn, and others having very kindly, and at considerable expense and trouble to themselves, sent us most elaborate drawings of full-grown trees from distant parts of the country, which we cannot make use of, because they have been drawn without reference to a scale, we have thought it might be useful to all persons who feel inclined to favour us with drawings, as well as to others who wish to improve themselves, to throw together the following directions. They have been acted on for all the trees and botanical specimens engraved or to be engraved for the *Arboretum Britannicum*.

Provide an octavo leaf, or several, say a dozen, of the same size, and let them be sewed up together at one end, in the form of a small oblong book. Form a parallelogram on the first page, of such dimensions as to include the largest drawing which an octavo page will admit of, and next mark the scale on the boundary of this parallelogram, as is done in *fig. 53*. The parallelogram used by us is 4 in. broad, and 7½ in. long; and

the divisions are a fourth of an inch each. This parallelogram admits of a drawing of a tree 30 ft. high, with its branches extending over a space 16 ft. in diameter. These dimensions may be considered as the maximum for trees ten years planted, even under the most favourable circumstances; and, therefore, this size of page, and this scale, are what we have adopted for our *Arboretum Britannicum*. One page being marked as in *fig. 53.*, all the other pages in the book, or any number of separate pages, may be marked in a similar manner by pricking through them from the different divisions of the scale.

For the purpose of drawing full-grown trees within the limits of the same-sized parallelogram, we assume 90 ft. as the maximum height of the tree, and 48 ft. as the maximum diameter of the space covered by the branches; and, for this purpose, the same division of the inch into four parts will suffice, but with this difference, that each of these parts must be considered as 3 ft., instead as of 1 ft. *Fig. 53.* is marked in this manner, in the inside of the parallelogram, for old trees; and it is marked in the manner before described, on the outside of the parallelogram, for young trees. In practice, it is unnecessary to mark the figures, as the draughtsman will easily bear in recollection what each division represents.

The next point is to prepare a scale for drawing the botanical specimens; and all that is necessary for this purpose is, to consider each of the divisions of the parallelogram as representing 6 in., which gives a scale of 2 in. to a foot; so that a page of the above dimensions, that is, 4 in. by $7\frac{1}{2}$ in., will admit of a specimen of a shoot or leaf 3 ft. 9 in. long, and 2 ft. broad. This is large enough for the leaves of every tree which will endure the open air in Britain; those of *Ailántus glandulòsa* and of some of the *gleditschias* being the largest. We may here observe that the botanical specimens ought to be drawn in a book appropriated to themselves; because they require to be drawn at three different seasons; viz., when they are in flower, when they are in fruit or in seed, and, for the deciduous kinds, during winter, when the leaves are off, to show the appearance of the wood at that season. The specimen in flower will naturally, in most cases, be drawn first; and, because the flower is the first in the order of nature, it ought either to be put on the top of the page, or on the left hand side of it, in order that it may come first in observing or reading. This is the reason why, in our *Arboretum Britannicum*, we have always put the spring or flowering specimen on the left hand, and the autumn or fruiting specimen on the right hand. For a corresponding reason, we have shaded the entire trees on the right hand rather than the left, because the eye, being first attracted by the light parts of an object, proceeds afterwards to the shade. Where the flowers, when fully expanded, or the fruit or leaves, when fully grown,

[illegible]

are less than an inch across, a flower, fruit, or leaf of the natural size is given; and, to distinguish these full-sized specimens from such as are drawn to a scale of 2 in. to a foot, those of the full size are marked with a cross, thus +. Where a tree is of one sex, or has the sexes in different flowers on the same tree, the male flowers are marked by an *m*, and the female flowers by an *f*. In one or two cases, it has been deemed useful to give magnified specimens of flowers or their parts; in which cases the letters *mag.* are added to show this. Where the tree is deciduous, a specimen of the young wood, as it appears in winter, is given to the same scale of 2 in. to a foot. These requisites show that nearly a whole year is required, in order to draw properly the botanical specimens of any one tree.

Supposing the botanical specimens to have been all drawn on the same page, at such distances from each other, and from such-sized shoots or twigs as may have been convenient for the draughtsman; they can afterwards be selected and properly arranged, either at the bottom of the tree, if it should not be so large as to fill nearly the whole page, as in *fig.* 61. (*Quercus pedunculata*); or partly at the bottom, and partly alongside of the tree, as in *fig.* 54. (*Ailantus glandulosa*).

The draughtsman may now be considered as having got his directions, as far as respects scale; and, therefore, we shall next proceed to the mode which we recommend for drawing the trees on the prepared pages; premising that, except for the purpose of improvement, we do not invite any one to draw or to send us drawings of botanical specimens; because it will be far less trouble to them send us the specimens themselves. These may be either loosely packed in live moss, very slightly moistened, and enclosed in an air-tight tin case, in which way we have received specimens from Vienna and from Philadelphia in a state perfectly fit to draw from; or the specimens may be dried and sent in a letter by post, in which way we have received specimens of the female flowers of *salisburia* from Geneva, and of the male flowers of *maclura* from New York. When specimens are properly pressed and dried, it is astonishing what a number may be sent in a letter. In one frank, we have received from Elgin dried specimens of six sorts of birch. We have also received beautiful specimens from the Earl of Coventry's arbo-retum at Croome in this manner. Even cuttings of trees fit for striking may be sent by post, not merely from one part of Britain to another, but from Paris and Brussels to London, of which we have recently had two proofs. The paper forming the envelope of specimens intended as cuttings for propagation should be saturated with grease or any fixed oil, in order to prevent the evaporation of the water contained in the specimen. But to return to our trees:—

54



32 ft. high, 8 in. diam.

Having prepared the paper, and chosen two black-lead pencils, one hard, and the other hard and black, together with a foot rule and a chair, the next thing to be done is to choose the tree and the aspect from which it is to be drawn. In making a choice, the average form, height, and character of the species ought to be taken, as far as practicable; and not a specimen remarkable either for its height, or for its singularity or peculiarity; and the point from which it is to be drawn ought, if possible, to be on the south, south-east, or south-west side of it. The rule is, that the sun ought always to be behind the draughtsman, and rather to the left than to the right of him. All other circumstances being the same, therefore, when a tree is to be drawn in the morning, the draughtsman ought to place himself on the south-east side of it, at mid-day on the south side, and in the afternoon on the south-west side. The next point is the distance from the tree at which the spectator ought to place himself. If he sits, which is, in general, the best mode, though some artists prefer a standing posture when drawing, twice the height of the tree will be a very good distance; but if he stands, and the tree has a very short trunk, say one under 6 ft. in height, it will be advisable for the artist to add to his distance from the tree once, twice, or thrice his own height; otherwise the height of his eye above the lowest branches of the tree might cause the branches to conceal more of the trunk than would be desirable. It may be useful to add, that the principle on which the distance is chosen is that of being able to see the tree as a whole, or as an entire mass of light and shade easily comprehended by the eye fixed in one position, as opposed to that of seeing it in detail and by changing the position of the eye. Experience has shown that the eye cannot comprehend more with ease than the fourth part of a circle, whether we take this circle as a vertical or as a horizontal plane, or as a solid globe, and imagine the eye in its centre. The principle which directs the position of the sun to be behind the spectator rather than in front of him, and at his left hand rather than at his right is, that a portion of the tree may be in light, and another portion in shade, in order to show its general form and rotundity, and that the portion in shade may always be, for reasons above given, on the right hand. In many cases it may be necessary to draw the tree from the north side, and, in many more, to draw it when the sun does not shine: in both these cases, the artist must supply the shade from his knowledge of the manner in which it is supplied by the sun when it shines. For this, and for every thing else relating to the subject of drawing from nature, he will find very useful instructions in *Hassel's Camera, or Art of Drawing in Water Colours*, edit. 1834, 10s.

The artist having chosen his tree, and fixed his chair at the

proper distance, the next step is to measure or estimate its height. This being done, and supposing the height to be 19 ft. 7 in., then nineteen divisions and a half of the scale are to be counted down from the top of the parallelogram, and a slight line drawn across, as at *aa*, in *fig. 53*. An estimate is next to be made of the diameter of the space covered by the branches, and also of the extent of the branches on each side of the tree. If the branches extend nearly to an equal distance on each side of the trunk, then all that is necessary is to make a mark in the centre of the horizontal line *aa*, at *b*, in order to indicate the centre of the trunk. If, on the other hand, the branches extend much more on one side than on the other, then the first step is to set off the total diameter, so as to reach within equal distances of each side of the page, as at *cc*, in *fig. 53*.; and supposing the trunk to be one eighth nearer one side than the other, then the place for its centre may be indicated at *d* on the base line *ee*.

The next step is one of some importance. The artist should go up close to the tree, examine its leaves, and make sketches of an individual leaf, and of a cluster of leaves, both to a larger scale than that to which the tree is to be drawn, and then to the same scale to which the tree is to be drawn. These sketches are merely to be considered as studies made with a view to acquiring what artists call the *touch*, or ultimate character of form, with which the tree is to be clothed. As all the masses of light and shade, and all the various forms which a tree clothed with its leaves presents in nature, result from the various disposition of one form of leaf; so, in a picture, all the imitations of these are formed by the repetition of one character of touch. Sometimes the leaves on the tree, and the touches in the picture, are so crowded as almost to obliterate each other; at other times in both they are more distinct, and the form of the leaf, and the character of the touch, may be more distinctly recognised. In densely clothed trees the form of the leaf, and the character of the touch, are most discernible at the extremities of the branches; in thinly clothed trees they are discernible throughout. As every species of tree has a distinct character of leaf, so has every species also a distinct character of touch.

The young artist, however, must not suppose, from all this, that to represent a tree it is only necessary to know the form of its leaf, and of its touch; neither must he suppose that, in making out the details of the tufting or subordinate masses of a tree, he is merely to repeat leaf after leaf: on the contrary, having a knowledge of the forms of the leaves when examined singly, and of their clustering, as exhibited on the points of the branches in the general outline of the tree when examined singly, and also of the tufting or subordinate masses of the tree when examined singly, he must copy from nature, almost without reference to

his knowledge of these details; lest, instead of making a picture of the tree as it is in nature, he should portray only his own ideas of how a tree ought to be drawn. We repeat, that he cannot too closely copy nature, and this without reference to any rules; calling to his assistance his technical knowledge of the leaves, of the touch, and of the character of tufting, only where he feels the want of it, to assist him where the appearance of nature may be of doubtful expression. In this way a man writes on any subject, without continually thinking of grammar or syntax; but when he comes to read over what he has written, and finds some part of it obscure, or of doubtful construction, he is obliged to have recourse to his grammatical knowledge.

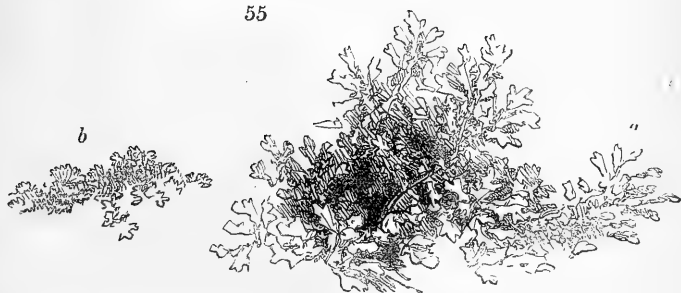
It may be remarked here, that the touch of young trees is in no case so powerfully marked and characteristic in nature as that of old trees, for reasons familiar to every gardener, and which it may be well to notice here for the sake of artists. We have already said that the touch is formed by the clustering of the leaves at the extremities of the shoots. Now, as the terminating shoots of all young trees are chiefly or entirely of one year's growth, they, of course, are long, and terminate in a very few leaves, placed alternately, or otherwise, round the shoot, or axis, and at some distance, often an inch or more, from each other. Such leaves can never form those striking clusters which are so conspicuous in most old trees; particularly in the oak, the starry touch of which is well known to every artist. The terminating shoots of old trees are generally shoots which grow only an inch or two, or, perhaps, not so much, every year; and, consequently, according to the manner in which trees grow, what is only a single leaf in the young tree of ten years' growth, is, in the spray or terminal branches of the old tree, a spur of several years' growth; that is, it is a spur or shoot of half an inch or more in length, protruding from the other shoot, and terminating in a cluster of leaves, perhaps half a dozen or a dozen, all radiating from the same very short axis. These radiating leaves form the touch. Any one may prove this by comparing a young oak tree with an old one. Notwithstanding the great difference between the touch of an old tree and a young tree of the same species, there is a certain distinctive character of touch even in young trees, and much more so in some species than in others; a horsechestnut, for instance, whether young or old, has a very distinct character of touch from the large size and marked form of its leaves: so have all other trees having large leaves, and most of those having compound leaves, such as the robinias, ashes, elders, &c.

It may not be irrelevant to observe that there is as great a difference between the character of the ramification of an old tree and that of a young one, as there is between the character of their touch. There is a certain degree of sameness in the

disposition of the branches of all young trees, from their tendency upwards, and perhaps still more from their being so fully clothed with leaves. Old trees, on the other hand, have generally a majority of their branches in horizontal or very oblique directions, and they are never so fully covered with leaves and spray as is the case with young trees. As a result of what we have stated, the general forms of young trees present a certain degree of sameness; while in old trees of distinct species there is generally a very distinctive character in the general form, in the trunk, the ramification, the tufting, and the touch. Any one may be convinced of this by observing any particular species, not of very common occurrence, in the arboretum of the Horticultural Society's garden, or in that of Messrs. Loddiges, and observing the same tree of fifty or sixty years of age, at Syon, Purser's Cross, Chiswick, Upton, or any of the places noted for old American trees in the neighbourhood of London. At the same time, while we state this, we must remark that there is still a very great difference in the general form, expression, and character of even young trees which have been no more than ten years planted. In proof of this, we again refer to the two metropolitan arboretums, and to the 300 or 350 engravings of entire trees which will be given in our *Arboretum Britannicum*. We may particularly refer both to the living specimens and to the engravings of the smallest class of trees, such as the thorns, and other *Rosaceæ*; which, even in ten years' growth, are remarkably distinct and characteristic, and supply the landscape-gardener with admirable resources for planting small places, as will hereafter appear. We shall give engravings of above 40 distinct kinds of thorns, every one of which will be found to have a remarkably distinct character of picturesque beauty independent of its botanical distinctness.

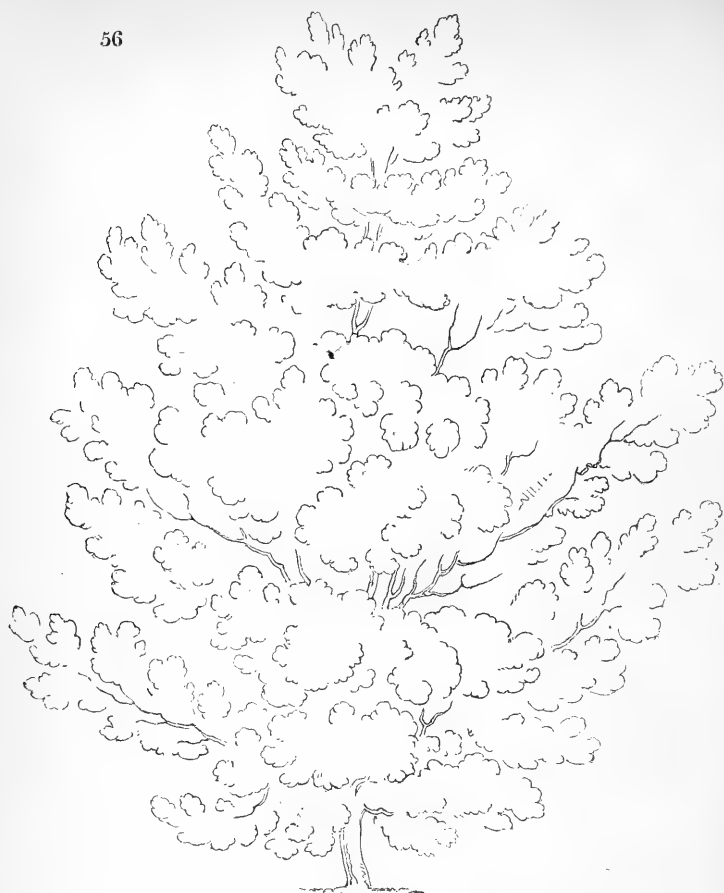
To recur to the subject of the touch, we shall here quote from the *Magazine of Natural History*, vol. i. p. 244., what Mr. Strutt

55



has said on the subject of the touch of the oak, and illustrate it by two engravings from his sketches. "The foliage of the oak,"

56



he says, "is particularly suited to the pencil. In those portions which are brought nearer to the sight, the form of the individual leaves (*fig. 55. a*, to the scale of 1 in. to a foot) may here and there be expressed, as shown in the sketch, which also exhibits what is technically called the touch (*b*, to the scale of the fourth of an inch to a foot), necessary to express its character as it recedes from the eye." As a contrast to the touch of the oak, we shall give that of *Pyrus nivâlis*, a species of wild pear, taken at random from the sketch-book of an artist, M. Lejeune, in our employment. In *fig. 57.*, *f* is a single leaf, drawn to a scale of an inch to a foot; *g*, a cluster of leaves to the same scale; *h*, the same cluster of leaves to the scale of a quarter of an inch to a foot; and *i* the same cluster to a scale of 1 in. to 12 ft. The last is suited for full-grown trees, and the preceding one for young trees-drawn to the larger scale.

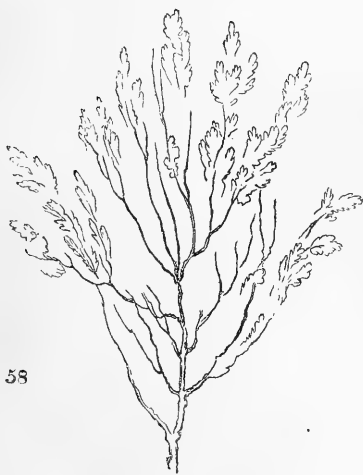


57



The artist having made himself acquainted with the touch of the tree, may retire to his seat and commence sketching; unless the tree should have conspicuous flowers or conspicuous fruit, as is the case with the horsechestnut drawn when it is in flower, or with the laburnum if drawn when it is either in flower or in fruit. In examples of this kind, the artist must use the same means to acquire the touch of the flowers, or that of the fruit, as he has done to acquire the touch of the leaves.

In proceeding to draw the entire tree, the artist will first indicate the outlines of the masses, in the slight but accurate manner shown in *fig. 56.*: he will then indicate the trunk, and its manner of rising from the ground; as whether perpendicular or inclined, and whether it tapers much or little. All the principal branches of the trees, that are visible through the leaves, should also be slightly indicated, as in *fig. 58.* This being done, the next step is to fill in the details of the leafing,



58

the commencement of which, at the tops of the two trees, is indicated in *figs. 59. and 60.*; and, when this is effected for the entire trees, these two sketches only require the botanical details placed under them, to assume the appearance of the oak (*Quercus pedunculata*) *fig. 61.*, and the bird-cherry (*Cerasus Padus*) *fig. 62.*

The only point which it remains to settle is the season of the year, or the state of the tree, most suitable for its being drawn. Were the object in view simply to produce picturesque beauty, the autumn, after the leaves of the deciduous sorts had changed their colour, and were ready to drop off, and when the leaves of the evergreen sorts were fully grown, would be the fittest season: but the object, in such a work as the *Arboretum Britannicum*, is not beauty with reference to the picturesque, the sculptural, or any other description of art; on the contrary, it is natural beauty, beauty with reference to the nature and characteristic distinction of each particular species of tree. It is, in short, the beauty of truth, not local or peculiar truth, or truth with refer-

59



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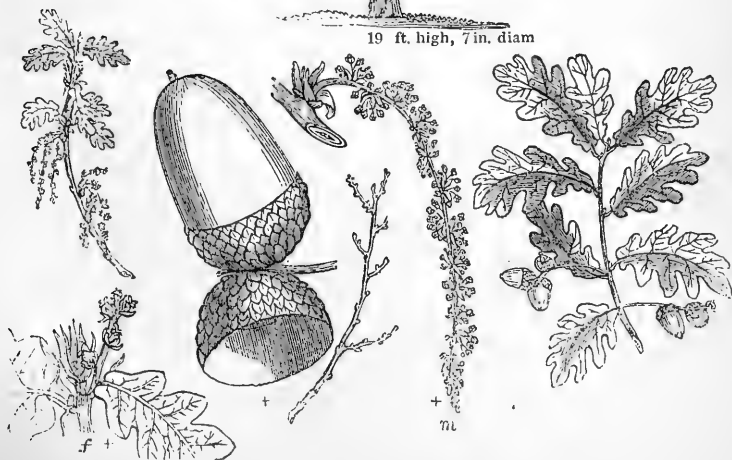
ence to any description of art; that is, not a portrait of a tree with the peculiarities which it may happen to have at a particular time and place, from peculiar circumstances; or a portrait taken to show the beauties of any particular style of sketching, drawing, or painting. It is not the portrait of a tree which has been overtopped by another tree, been improperly pruned, a part of it scorched by fire, or a part of the leaves destroyed by insects; or a portrait taken to show the picturesque effect of broken lights and shadows, breadth of mass, deep tone of oil colours, the sharpness of lines printed from copper or steel, or the softness of touches printed from zinc or stone. No; to draw a tree with any of these sorts of peculiarities would be in the same taste as it would be to make, as a specimen of the human being, a portrait of a man mutilated or deformed by accident or disease; or, as a specimen of the human face, a portrait of one disfigured with warts or pimples. This would be to portray not merely the individual instead of the species, but the individual under circumstances which had nothing to do with his character or expression, whether moral or graphic, as an individual.

It being agreed, then, that the object in drawing trees for the *Arboretum Britannicum* is to give a faithful portrait of the species, neglecting such circumstances as may be peculiar to the individual, the next point is to determine the season of the year at which the portrait is to be taken. With a view to this object, trees may be divided into three kinds: those the greatest beauty of which is exhibited when they are in flower or in fruit; those whose greatest beauty is when they are leafing in spring, or just about to lose their leaves in autumn; and evergreens, or those which are clothed with foliage throughout the year. The last two should be drawn in autumn; and those which are most beautiful when they are in flower or in fruit, at the seasons when the flowers or the fruit are in their greatest beauty. For example,

61



19 ft. high, 7 in. diam



G G 4

the horsechestnut ought to be drawn in June, the laburnum about the same season, and the common apple tree, the Siberian crab, the quince, and one or two others, in autumn. Some species of the genus *Crataegus* are highly beautiful, both when in flower, in May or June, and when in fruit, from September to December; and these may be drawn at either season. Evergreens may be drawn during autumn, and the whole of winter, till they begin to make their shoots, in May; from that period they are unsightly for several weeks, while they are losing their old leaves and acquiring new ones; and they are uncharacteristic of the species till the new leaves and shoots have acquired that rigidity which is not produced till after complete maturity. This will be rendered particularly obvious by observing the common spruce, fir, the Scotch pine, and the evergreen oak, during the growing season; say, about London, from the middle of May till the middle of June, as we shall show in that part of the *Arboretum Britannicum* which treats of the study of trees as a science, by portraits of the same tree at different seasons of the year. A young spruce fir tree drawn in May, to the scale of a quarter of an inch to a foot, would have a touch not unlike that of a horsechestnut; and a pine, and an evergreen oak, would appear to be trees of quite a different species from what they are. In general there is a great sameness in the appearance of all trees during the leafing season, from the absence of that rigidity of foliage on the points of the shoots which gives rise to the particular touch of each species. Some deciduous trees are almost as readily known by their appearance in winter, after all the leaves have dropt, as they are in summer. Portraits of such trees may be taken during that season; and, indeed, it were to be desired that portraits of all our principal trees could be given in their naked as well as in their clothed state. How very characteristic these winter portraits are, in the case of some species, is rendered obvious by *fig. 63.*, which is a portrait of *Gleditschia inermis*, taken from the Horticultural Society's garden in April last.

We have now, we think, given ample directions for drawing trees in black and white; that is, with the black-lead pencil, or a pen and Indian ink. The kind of black-lead pencil proper to be used is that marked H, or hard, by the manufacturers; in addition to which it is necessary to have one marked F, which is not quite so hard, and, consequently, admits of shading with greater rapidity. The young gardener, in using these or any other pencils should be careful not to put the lead to his mouth, or otherwise wet it, as this ends in glazing the lead and preventing it from marking the paper without great exertion. In drawing from nature in the open air, when the air is humid, a softer pencil requires to be used than when the air is dry; and for this



16 ft. high, 4 in. diam.



purpose the pencils of the class F are useful, as well as for shading: but there is a description of drawing paper with a rough surface, not liable to be much affected by the weather, which may be obtained by those who have occasion to draw in the open air at all seasons. It requires an artist of considerable skill and experience to sketch trees from nature with pen and ink, because such drawings, unlike those made with a pencil, do not readily admit of correction. Indian ink is used for drawing from nature, in preference to common writing ink, because it readily admits, by mixing it more or less with water, of being laid on of different degrees of darkness, and of being still farther darkened by repetition. The reason of this is, that the colouring matter of the Indian ink is more of an earthy nature than that of the common ink, which, in common language, is a stain, and acts by sinking into the paper; whereas the colouring matter of the Indian ink rests on the surface of the paper. There is this farther advantage in using ink or colours which rest on the surface of the paper, instead of sinking into it, that they may be easily rubbed off with a piece of wet sponge, or any similar means, without injuring the paper. Hence it is that, in delineating maps of estates, especially in those respecting which there is likely to be any legal disputes, it is proper, and ought to be made imperious on the land-surveyor, to use, both in delineating and writing, ink and colours which stain, and are therefore not so likely to be obliterated as those which rest on the surface.

We shall say nothing about colouring the entire trees, because, as engravings, whether on wood, zinc, copper, or steel, we prefer them in light and shade. The botanical specimens may be advantageously coloured, and for this purpose, when they are drawn from nature, the artist should tint in as much of each specimen as will enable him at any future time to colour the whole, or whatever portion of it may be finally introduced at the bottom or the sides of the tree.

To persons residing in the country who have leisure, and to the young gardener who wishes to add to his knowledge of cultivation that of the art of laying out grounds, we would strongly recommend the sketching of trees from nature. Without having sketched a great many trees, it may with safety be said that it is scarcely possible to acquire the art of *seeing trees*; that is, the art of seeing them with the eye of an artist: it is just as impossible, in short, for a person who has never sketched trees to see them with the eye of an artist, as it is for a person who has not studied botany to look at flowers or leaves with the eye of a botanist. Let it never be forgotten by the young gardener, that a landscape-gardener, or an architect, or a kitchen-gardener, who has any pretensions to laying out grounds, ought to see trees with the eyes of both an artist and a botanist.

63



Were drawing in all its departments as universally taught to youth as reading and writing are, every person would be just as able to depict by sketches whatever visible objects come before him, as he is to write down by words whatever he may hear spoken ; but, as these times have not yet arrived, every man must work out his own education in this point, and in every other where he feels it most defective. It is, or used to be, a general prejudice, that the talent of drawing objects was a gift of nature,

and could not be communicated by art or education. Two or three centuries ago authorship was supposed to be a similar talent, and a man who could write a book was considered an extraordinary being. Now, though we freely admit that it is impossible to excel, either as an artist or an author, without a favourable organisation for these pursuits, which organisation is undoubtedly a gift of nature; yet we maintain that every human being with an average organisation, and wholly without either a particular taste for drawing, or a particular taste for writing, may be taught by others, or may teach himself, both to draw and write *well*. If evidence of this is sought for, it will be found in the pages of this Magazine, in which more than half the papers are by self-taught writers, and half the engravings are from the sketches of self-taught draughtsmen. The grand point is to begin in time.

ART. III. *On mixing Herbaceous Flowering Plants with Trees and Shrubs.* By the CONDUCTOR.

WE have stated (p. 358.) that “one of the most common errors in ornamental gardening is that of mixing herbaceous flowers with shrubs and trees.” The reason is very simple; viz., that neither can thrive properly, and that, supposing both to thrive in the same degree, the one injures the effect of the other. However pleasing and picturesque it may be to see trees, shrubs, and flowers, all struggling together for the mastery in a natural wood, yet this sort of beauty is totally unsuitable for scenes of art. The object of collecting trees, shrubs, and flowers into a garden, is to produce them in a higher degree of perfection, and show them off to greater advantage, than can be done in a state of wild nature. Now, whatever, in the planting, cultivation, or management of a garden, interferes with these two objects, the perfection of the plant, and its display to the greatest advantage, must be wrong, unless we are wrong in our views of what is the object of garden culture.

If the object in a garden is to imitate nature by mixing trees, flowers, and shrubs together indiscriminately, and crowding them together as they are to be seen in a state of nature, then, of course, our argument falls to the ground, and the present general practice of fringing the margin of shrubberies and plantations with herbaceous plants admits of justification. On the other hand, if we are right in the objects proposed to be attained by a garden, then flowers ought never to be planted where there is some obvious impediment to their arriving at a high degree of perfection, or where there is some other rival object of beauty to interfere with their effect.

Every gardener knows that no herbaceous plant will arrive

at the degree of perfection of which it is susceptible, in a situation where it is either shaded by the branches of trees or shrubs, or where the soil in which it grows is liable to be penetrated by their roots. There may be an exception or two, but these do not affect the general argument. Now, it cannot be denied, that, in shrubberies, and in mixed clumps, herbaceous plants are liable to one or both these impediments to their arriving at perfection. We therefore decide at once, and without the slightest hesitation, that herbaceous plants ought never to be planted among trees or shrubs, under any circumstances but those which are unavoidable from accidental causes.

The second reason why ligneous and herbaceous plants ought not to be planted together is, that the one injures the effect of the other. How, it will be asked, is this position to be maintained? It will not be denied, we think, that the beauty of a tree or a shrub, unless the latter is a very small one, such as a rose, an azalea, or some other flowering shrub of that size, is of a very different kind from the beauty of a herbaceous plant. Neither will it be denied that the beauty of any object, or of any scene, is greatly increased by the unity of the expression; that is, by the tendency of all the parts of that object or scene to unite in conveying to, and impressing on, the mind one description of pleasing emotion. Now, to take the extreme case of trees and flowers placed together so as to form one picture: the expression of the tree, it is clear, is that of grandeur and dignity; and to feel this, the eye must be at a certain distance from it, so as to comprehend the trunk, branches, and head, as one entire whole. The expression of a herbaceous plant in flower, on the other hand, is that of brilliancy of colour, and beauty of detail, whether in colour or form; and to enjoy these, the eye must be quite near, that the attention may be directed to the flower and its different parts. Place the flower near the eye, it may then be said, and the tree at a distance from it, and you will have the expression of both in the same picture. Granted: but we deny that the two expressions seen together will unite in forming one harmonious emotion. Imagine a picture with one part of the foreground of roses, and another part of oak trees. Would such a picture be so satisfactory as if the foreground were of one kind, and either all forest-like scenery, or all flowery or garden-like scenery? It would not. To enjoy the roses, the eye must look down, and be exclusively directed to them; and to enjoy the oaks, the roses must be overlooked. Now, a picture, a scene, or an object, to be felt as one scene or object, and, consequently, to produce its full impression on the mind, must be capable of being seen with the eye in one fixed position. This is the case with all the landscapes and pictures of every kind copied from nature, or composed by eminent artists; and such landscapes, forming, as

it were, the theory of art, afford a test by which to try both nature and art. Flowers are never seen in detail in the foregrounds of the landscapes of great masters, either of Italy or of this country; nor, indeed, are there details of figures, of ground, or of any kind, in the foreground, which are calculated to interfere with the general effect of the picture. All this is founded on the principle*, that the mind can only attend to one thing, and one kind of thing, at one time.

On this principle, when the flowers are the chief objects, the trees and shrubs should be kept subordinate; and, when the trees are the chief objects, the flowers ought to be kept subordinate. Neither in a garden nor in a picture is there any way of doing this but by keeping them apart, so that the one may form the foreground, or principal object nearest the eye, and the other the distance, or object the farthest from the eye, or at least as far as the effect desired may require.

In conclusion, we would observe to gardeners, that the effect even of dug ground about large or old trees derogates from their dignity of expression; and that shrubs, or, at all events, evergreen shrubs, and all such deciduous ones as exceed the height of 2 ft. or 3 ft., have more or less the expression of trees; and, though such shrubs are less discordant, especially when in flower, when mixed with herbaceous plants than trees are, yet that they are discordant to a degree that ought to effect their total exclusion from flower beds. This, let it not be forgotten, is altogether independent of the argument for the exclusion of flowers from shrubberies derived from the nature of culture; that is, from flowers not thriving so well among shrubs as they do by themselves. The two arguments taken together ought, in our opinion, to effect the complete exclusion of herbaceous plants from beds or borders of trees or shrubs, or of both, in all gardens of any extent. In small spots, where it is desirable to include something of every thing, they must necessarily be admitted and made the most of; on the same principle that a family, who cannot afford to have two or three rooms, must put up with one: but this principle affords no excuse for the practice where there is no scarcity of room.

If this hint is taken as we expect, it will save gardeners and their employers some labour and expense, and it will make their places look far better at every season of the year. Let shrubberies of flowering shrubs, such as rhododendrons, azaleas, and all peat earth shrubs, which seldom grow above 4 ft. in height, be simply dug, and each plant kept distinct, so as to be covered with flowers on every side; and for the larger, hardier, common earth shrubs, after they have attained the height of 4 ft. or

* This principle we have explained more in detail in the *Architectural Magazine*, vol. i. p. 249.

5 ft., let the ground among them be covered with turf. Still, however, keep them apart, by thinning and pruning, that each may show its individual shape. Never in any case allow them to become crowded and confused, and injurious to each other, as they are in a common wood; for that is to forget the distinctive character of a garden.

With these two reasons for discontinuing the practice of planting flowering plants otherwise than in beds or groups in open airy situations by themselves, we shall at present conclude; because it is enough to enforce one point at a time; but we shall just hint at another principle, to be worked out at a future opportunity: it is, that, *as a garden is a work of art, and a scene of cultivation, every plant or tree placed in it should be so placed as never to be mistaken for a tree or plant placed there by nature or accident, or as to prevent the practices of cultivation from being applied to it.* Hence all plants in beds or flower borders should be sown or planted at regular intervals, so as that each plant may form a distinct bush of itself, and be covered with flowers on every side, as far as its nature admits, from the ground to its summit. Exceptions there are in favour of creeping and trailing plants; but even these ought never to be allowed to crowd each other; for that is contrary to the requisites of good culture, and the beauty of art and design.

There are so very few gardens and pleasure-grounds in which the above principles are not sinned against, that we shall not refer to any private garden as an example. A public garden, however, may be referred to without giving offence, we trust, to any one; and we shall, therefore, at once point to that of the Horticultural Society at Chiswick, as conspicuously exhibiting all the faults which we have been arguing against in this article. This garden, with reference to our positions, instead of being an example to be imitated, may, perhaps, do more good as a beacon to be avoided, by enabling us, by a reference to it, to point out more clearly what we mean. The arboretum of that garden, for all practical purposes, may, as far as respects flowers, be considered a shrubbery. Now, in one part of it, we have a dug border of roses under a strip or marginal plantation of acers, oaks, elms, &c.; in another we have dug clumps of thorns of different species, the ground under them being planted with pæonies; in a third we have a collection of *Pyrus* in a dug clump, the surface of which is covered with *Gilia capitata* sown broadcast. Last year this arboretum was disfigured by dahlias, pelargoniums, &c. We recommend the young gardener to look at these clumps, and at all the others; to consider what we have said on the subject; and to endeavour to determine whether we are right or wrong. We also recommend him to look at the flower-garden, and to determine, after the principles

laid down, whether the annual and other flowers are kept as distinctly apart as they ought to be.

We are most happy to observe that the common laurels and hollies, which have been distributed through the arboretum in the Chiswick Garden, and which give it such a sameness and commonplace character throughout, are being removed. We trust that in a short time every thing else will be excluded from it that is not strictly and scientifically a part of it, and that, instead of dug clumps, the entire surface of the arboretum (pond included) will be covered with turf. The keeping of this turf might be let by the season to one man, so as to save the Society some expense; and some disfigurement would be saved to the garden, if one or two women were employed for the season to pick off the caterpillars, and to catch moths, butterflies, and other insects, before they laid their eggs. The late Mr. Wilmot of Lewisham kept his fruit trees perfectly free from insects of every description, by means of one woman to (if we recollect right) every ten acres of trees. The rosaceous plants, including the Pomaceæ, in the Chiswick Garden, as in most of the nurseries about London, this season have suffered more than usual injury from caterpillars; which injury might have been greatly alleviated had these insects been removed in time.

ART. IV. *On the Failure of the Potato Crop in the North of Scotland.* By Mr. JAMES MUNRO.

AMONG the various causes assigned for the recent failures of the potato crop, the most plausible have always appeared to be those which trace these failures to the sets. In this part of the country, no change has taken place in the mode of keeping potatoes through the winter, in preparing them for planting in the spring, or in preparing the soil or manure for receiving them. The soil and the climate are also the same. If, then, no change have taken place in the mode of treating the potato, in the soil, or in the climate, the cause must be owing to something in the potato itself. This appears highly probable from the following circumstances:—

It is customary for farmers, in this part of the country, to let the land to townspeople, at 10*l.* per acre; the tenants providing their own sets, and placing them in the furrow after the plough. The farmer finds manure, and performs all the necessary labour throughout the season: he ploughs up the crop, which is gathered and put into sacks by the tenant, and the farmer completes his part of the contract by carting these sacks home. Now, in a field planted in this manner, with sets furnished by above a dozen different persons, I have seen one drill fail from end to end, while

other drills on each side were quite healthy ; a little further on I have seen six or eight drills with a few slender and sickly stems scattered along the line ; while again, on each side, all was luxuriance. Now, as this is to be seen in many fields, does it not clearly point to the sets as the cause of the deficiency, rather than to the soil, the manure, the mode of treatment, or the climate ?

But what has been done to the sets ? Are some of them affected by disease or insects, and not others ? In my opinion there is no occasion to have recourse either to disease or insects. Weakness is the cause, and this weakness is produced by a slight alteration which has taken place in the mode of management ; viz., that instead of potatoes being left in the ground till November, as used to be the case formerly, they are now taken up in October to make way for wheat sowing, before the tubers are sufficiently matured to be fit for separating into sets. As a proof that the weakness thus produced is the cause of failure, I may adduce the facts that the sets of early varieties of potatoes have not been known to fail, and, also, that tubers of late potatoes, when planted whole, generally succeed. In this last case the whole of the vital energy of the tuber is concentrated in one bud or shoot (for it is seldom that more than one shoot is produced from a whole tuber, notwithstanding its number of buds), and, therefore, a plant is produced ; but, when these buds are separated, the proportion of vital energy assigned, as it were, to each, is so small as to be ineffective in the production of a plant.

Perhaps it may appear to some that what is now stated is in contradiction to the theory which recommends taking up potatoes that are intended for sets before they are fully ripe ; to which I can only answer that this theory may be, and I believe is, quite correct, and that the causes of failure above mentioned may be considered as owing to that theory having been carried too far.

I shall only further add, that the evil of too early taking up may be greatly mitigated by immediately burying the tubers in pits, instead of laying them up in heaps in houses covered with dry straw, in which state they wither, and, if not sufficiently matured, suffer such a diminution of their vital principle as to be unfit for sets. — *Brechin Nursery, November, 1834.*

ART. V. *Floricultural and Botanical Notices of newly introduced Plants, and of Plants of Interest previously in our Gardens, supplementary to the latest Editions of the "Encyclopædia of Plants," and of the "Hortus Britannicus."*

Curtis's Botanical Magazine ; in monthly numbers, each containing eight plates ; 3s. 6d. coloured, 3s. plain. Edited by Dr. Hooker, King's Professor of Botany in the University of Glasgow.

Edwards's Botanical Register; in monthly numbers, each containing eight plates; 4s. coloured, 3s. plain. Edited by Dr. Lindley, Professor of Botany in the London University.

Sweet's British Flower-Garden; in monthly numbers, each containing four plates; 3s. coloured, 2s. 3d. plain. Edited by David Don, Esq., Librarian to the Linnæan Society.

Facts which have a general Relation to Floriculture.—In the *Edinburgh New Philosophical Journal*, No. 37., July, 1835, are two communications interesting to botanical cultivators. One is entitled, "Account of some of the Rare Plants observed during an Excursion in the United States and the Canadas in 1834. Communicated by Mr. James Macnab." The other is entitled, "On the Character of certain Groups of the Class Personatæ. By David Don, Esq., Libr. L.S., &c. &c. Communicated by the Author."

EMBRYO DICOTYLEDONOUS: COROLLA POLYPETALOUS, OR NOT PRESENT.

III. *Ranunculaceæ*.

1596. *PEONIA* 14095 *Moutan*
var. *lâcera*, Lindl. cut-petaled ❸ or 3? sp Bt. Ro. R Eng. seedling 1831 C. p. l. Bot. reg. 1771

This very beautiful variety is strikingly different from the other moutans in the bright rosy red of the petals, the innermost of which are very much cut and gashed, curled up, and distinctly bordered with a narrow edge of light carmine, which sets them off to great advantage, and gives the whole flower a peculiarly rich and finished appearance. Raised from the seed of *P. Moutan* by Mr. William Highland, gardener to the Earl of Sandwich, at Hinchbrook, near Huntingdon. Mr. Highland has found that the seeds of the moutan kind of pæony do not germinate until eighteen months after sowing. (*Bot. Reg.*, July.)

LVI. *Myrtaceæ*.

1480. *LEPTOSPERMUM* 12653 *scoparium* [1810 Loudon's H. B. No. 12647. C p. l. Bot. mag. 3419
2 *grandiflorum* Hook. large-flowered ❸ or 5 sp. su W Ro Port Jackson 1817 Hooker.

It does not appear specifically distinct from *L. scoparium* L.; having the squarrose acuminate leaves, smooth calyx, and coloured calycine segments of that species. It is a variety very interesting for the large size of the flowers and the blush-coloured tint of the petals in flowers which are developed in a situation fully open to the light: in flowers developed in a shaded situation the petals are white. (*Bot. Mag.*, July.)

LX. *Proteaceæ*.

303. *ISOPOGON*,
Loudon's R. Br Loudon's ❸ or 4½ sp P Kg. George's Sd. 1830 S s. p Bot. Mag. 3421

Erect, 4 ft. or 5 ft. high; branches few, erect; leaves coriaceous, alternate, lanceolate, lingulate, and subspathulate, entire, 4 in. to 5 in. long, glabrous. Flower heads severally solitary

at the tip of the shoots, each including numerous flowers whose perianth is of a rich purple colour. This rare and handsome species is one of the discoveries of the enterprising botanic voyager, Baxter, whilst on his last visit to King George's Sound, in 1829. He gave to it the specific name; and this Mr. Brown has adopted in his *Supplement* to the *Proteaceæ* described in his *Prodromus Floræ Novæ Hollandiæ*. Mr. Brown had described twelve species of *Isopogon* in his *Prodromus*: the researches of botanic travellers of late years, and especially Mr. Baxter's discoveries on the south-west coast of New Holland, have enabled Mr. Brown to extend this number to that of twenty-three; see his *Supplement* to the *Proteaceæ* which he had described in his *Prodromus*. (*Bot. Mag.*, July.)


LXXVII. *Leguminosæ*, § *Papilionacæ*.

CLIANTHUS Solander Glory Pea. (*Kleios*, glory, *anthos*, a flower; in reference to the noble aspect of the species of this genus.) 17. 4. Sp. 3 of *Donia* are described in Don's *Syst.*, and *Donia* is shown below to be a synonyme of *Clanthus*. [reg. 1775.
puniceus Solander crimson-corollaed * — spl 3 my.jn C New Zealand 1832? Cp Bot.
Donia punicea G. Don's Gen. Syst. of Gard. and Bot., ii. 463.

Between, in consistence, shrubby and herbaceous. Stem about as thick as a goose's quill, branched into spreading branches, which are invested with an evergreen clothing of persistent green leaves, that are severally pinnate, and consist of from eleven to seventeen leaflets that are oblong, blunt, and have a shallow notch at the tip. Every part of the plant is glabrous, except the surface of the leaflets of the younger leaves and the green parts of the inflorescence. It appears that it is its habit to produce an abundance of flowers: these are disposed in racemes, which hang down each from the axil of a leaf upon the lateral branches; and each consists of several flowers ("many" is the number stated in the description: eight are shown in the figure), and "each flower is rather more than 3 in. from the tip of the standard [the uppermost petal] to the tip of the keel" [the lowest petal]. The standard is reflexed so much as to almost lie back upon the calyx, is ovate-lanceolate, acuminate, atrosanguineous, with a few white stripes near its base, rose-coloured on its back. The wings (two side petals) shorter than the keel or *standard*, atrosanguineous, obtuse. The keel "so much prolonged as to look like the beak of some bird," blood-colour diluted with orange, pale at the base. The flowers are succeeded by brownish-black legumes $2\frac{1}{2}$ in. long, pediceled, acuminate, including "many" seeds. *C. puniceus* has been spoken of as being resembled by *Sutherlandia frutescens*, and by some *erythrina*. The figure published is "from a specimen furnished by Mr. Levison, or Leveson, Gower, from his garden at Titsey, near Godstow. *C. puniceus* succeeds best planted in a peat bed in the open air; "in such a situation it has now been two years in Mr. Gower's

garden; and the plants continue to look very healthy, with a profusion of blossoms" being forming "for next year." "Its extraordinary beauty will render it one of the most valuable species [of plants] that have been introduced of late years; and even if it should prove no hardier than *Sutherlandia frutescens*, it will still form one of the most important and welcome of all the modern additions to our flower-gardens." (*Bot. Reg.*, July.)


2837. *ACA'CIA*.

tristis *Graham* drooping branches and dull green colour  or 18? [C s.l.p. Bot. Mag. 3429 mr.ap Y N. Holl. 1828]
"In the arrangement of the species, it ought to stand between *A. undulata* [See XI. 190.] and *A. armata*." — *Dr. Graham*.

The picture shows a branch of two twigs which have a more slender and lengthened character than is usual to those of *A. armata*. The phyllodia, or semblances of leaves, are, it is stated, suberect, dark green, slightly falcate, curving upwards, slightly pubescent, undulate. Heads of flowers on peduncles axillary to the leaves and shorter than them, produced along the terminal portion of the twigs; flowers, many in a head, yellow. (*Bot. Mag.*, July.)

XCVI. *Rhámneæ*.

67. *COLLE'TIA*.

hórrida *Brongniart* horrid-aspected  cu my.jn Gsh.W.P Chili and Mendoza 1832? S.s.l
C. ferox *Gill.* and *Hook.* in *Bot. Misc.* i. 154. t. 44. f. B. [Bot. reg., 1776.]

It is so abundant in spines, which may be deemed its branchlets, that it seems, as it were, a thicket of spines. The leaves produced are very few, and do not remain very long upon the plant; they are minute, ovate, serrate. Flowers numerous, produced in pairs, or more, at the base of the spines about the terminal part of the branches. They have not a corolla; the calyx is ovate-oblong with five shallow segments, which spread a little; in its colour "greenish white, stained with dull purple." *C. hórrida* is "hardy," and "evergreen" whether its leaves be present or absent, from the full green colour of the bark. In the plant's physiology, "the branches . . . act," *Dr. Lindley* has stated, "as leaves by the aid of their soft parenchyma with which they are clothed in the form of bark." *C. hórrida* "grows in common garden soil, and prefers a hot, exposed, dry situation, such as the foot of a south wall, without any kind of shade." The plant from which the figure has been taken is in the London Horticultural Society's Garden, and thus conditioned; but it is sheltered in winter and early in the spring by a covering, which projects over it some feet above it. *C. hórrida* "is often raised from Chilian seeds, under the name of *Retanilla*." (*Bot. Reg.*, July.)

CLVI. *Polygòneæ*.

1231. *ERIO'GONUM*.

compósitum *Douglas* compound-umbelled  Δ pr 1½ my.jn Ysh.W New Albion ... C m.s. [Bot. mag. 1774]

Its leaves consist of woolly petioles from 2 in. to 4 in. long, which bear disks or expansions 1 in. to 1½ in. long, ovate,

rounded or cordate at the base, more or less glabrous on the surface, woolly and white on the subface. The leaves are, it seems, disposed, mostly, in tufts at the tips of the shoots. From among these arise, in May and June, an abundance of woolly scapes, which attain more than 1 ft. in height, and bear compound umbels of yellowish white flowers. The flowers individually are small, but their number is very great. "It thrives equally in peat earth, or common soil, best in a damp situation, and may be increased by cuttings of its well-ripened shoots, struck in peat and sand in an almost exhausted hot-bed." *E. compositum* "was found by Douglas on the rocky gravelly banks of rivers in New Albion." (*Bot. Reg.*, July.)

EMBRYO DICOTYLEDONOUS: COROLLA MONOPETALOUS.

CLXX. *Ericaceæ*.

1339. RHODODENDRON 11021 caucasicum
var. stramineum Hook. straw-coloured-corolla 2 or 2 ap. Str. ... L s.p. Bot. mag. 3422.

An extremely beautiful variety, cultivated as the *R. caucasicum* in the Glasgow Botanic Garden, and in some other collections in Scotland. "At this season (April, 1835), notwithstanding a most unpropitious spring, our bushes [in the Glasgow Botanic Garden], one of which is 2 ft. high, and 3 ft. in diameter, have the extremities of their fine leafy branches terminated with a cluster of large, beautiful, straw-coloured flowers." Leaves elliptical-lanceolate; above, dark green and glabrous; beneath, rust-coloured, from the presence of a reddish yellow, very short, abundant down. (*Bot. Mag.*, July.)

CCVI. a. "*Theophrasteaceæ*, D. Don in G. Don's Gen. Syst. iv. 24. The *Theophrasteaceæ*, consisting of *Theophrasta*, *Clavija*, *Jacquinia*, and *Leonia*, constitute a small group, intermediate between *Myrsineæ* and *Sapoteæ*, being distinguished from the former by their many-seeded fruit, leafy cotyledons, anthers bursting on the side that is outward in relation to the flower, and by the presence of appendages to the corolla, which are alternate with the stamens, and which are to be regarded as the rudiments of a second series of stamens. *Theophrasta* agrees with *Clavija* in having its anthers bursting outwardly; but it differs in its bell-shaped corolla, in the ring-like crown enclosed in this, and in the stamens being separate, not united into a tube, as they are in *Clavija*. — D. Don.

527. CLAVIJA. [Theophrasta longifolia Jacq.
ornata D. Don adorned ♀ □ or 6—20 n.sp Saf. Caraccas 1829 C r.m Bot. reg. 1764.

Its leaves are oblong-spathulate or lanceolate, from 12 in. to 18. in. long, and 9 in. broad, borne crowdedly, or somewhat in a whorled mode; they are green, smooth, toothed, the teeth pointed, so as to resemble spines. Its flowers are produced in many-flowered (about twenty-flowered racemes in the picture) racemes,

above the axils of the leaves, are fragrant, the odour that of the flower of the cowslip; corollas saffron-coloured. The figure has been derived from a plant which had flowered in the stove of the Chelsea Botanic Garden. A number of young plants of it were raised in the late Mr. Colvill's nursery, in 1829, from seeds collected in Caraccas by Mr. Fanning. Some of these produced flowers in the spring of 1834. High temperature, and a soil composed of equal parts of loam and vegetable earth, are conditions favourable to the artificial culture of the plant, with plenty of water while it is in a growing state. (*Bot. Reg.*, the figure in June, the description in July.)

CCVII. *Primulaceæ*.

451. PRIMULA 3800 ciliata [P. Auricula, the other P. ciliata.) 1833. D. s. l. Sw. fl. gar. 2. s. 296.
2 purpurata D. Don purple-corollaed ∇ Δ or ap Dp.P Eng. hybrid (Parents, one a var. of

Mr. Edward Leeds, nurseryman, Manchester, has communicated a flowering plant of it, and information that it is a hybrid production raised in the Manchester neighbourhood from one of the numerous varieties of *Primula Auricula* and *P. ciliata*. Mr. D. Don has stated it to be an extremely showy variety, from the brilliancy of its blossoms, which it produces in great profusion. The corollas are of the richest purple colour. The plant is of very easy culture. (*Brit. Flow. Garden*, July.)

In the *Edinburgh New Philosophical Journal*, July, 1835, is a communication, p. 108—114., entitled, "On the Characters of certain Groups of the Class Personatæ. By David Don, Esq., Libr. L.S. &c." The primary of the groups on which, and on sections of which, characteristics are supplied, are the orders *Scrophularineæ*, *Rhinanthaceæ*, *Orobanchææ*, *Cheloneæ*, *Arago-aceæ*, *Sibthorpiaceæ*. The scope of Mr. Don's communication is distinct from that of Mr. Bentham's, noted in our p. 376, 377., as it embraces a wider range, and does not characterise, only enumerates, the genera that are included in the groups characterised.

CCXI. *Scrophularineæ*.

1798. RUSSELLA. [Bot. reg. 1773
juncea Zuccarini rushy-branched \blacksquare \square or 3 jlau S Mexico (? near Oaxaca) 1833? C s. l

Upright, about 3 ft. high, abounding in slender twigs, which have a disposition to droop; the leaves are, in most instances, so minute as to be inconspicuous; and the twigs from these characters present some semblance to rushes, or to the twigs of an equisetum, or a casuarina. Flowers appear in abundance in July and August; the corolla is scarlet colour, trumpet-shaped, an inch long. Propagated very easily by cuttings. "Found in Mexico by Count Karwinski, and lately introduced to the gardens of this country from Berlin and Munich." (*Bot. Reg.*, July.)

CCXIV. *Boragineæ*.

433. SYMPHYTUM.
†3592 caucasicum Bieb. Caucasian ∇ Δ or 2 my azure Caucasus 1820 D Co Sw. fl. gar. 2. s. 294

Is highly ornamental, its flowers having the brilliant corollas —

of a rich pink before expansion, azure blue when expanded — of *S. asperrimum*, united to the more delicate habit of *S. orientale*. Its dwarf habit, and beauty in its corollas, render it adapted to ornament the front of borders, for which purpose the large and coarse habit of *S. asperrimum* renders it unsuited. (*Brit. Flower-Garden*, July.) *S. asperrimum* bears, in the course of its long season of blooming, a profusion of flowers, showy in the colour of their corollas; and it is hence an estimable plant for the purpose of floral decoration, where scope can be allowed for the full developement of its proportions.

EMBRYO MONOCOTYLEDONOUS.

CCXL. *Orchideæ*.

2554. *EPIDENDRUM*. [reg. 1765
8832a *gracile* Lindl. "graceful" ♀ or ♂? ☒ fra 3 s. Y.R.G Bahamas 1833? D p.r.w. Bot.

Is closely allied to *E. odoratissimum*, but has leaves thrice as long, a flowering stem 3 ft. long, larger flowers, callosities upon the disk of the lip, and the segments of the lip are differently shaped in the two species. The colour of the perianth is green, progressing into yellow, and marked with purple; the labellum is yellow, streaked with red. The flowers have not showy beauty, but they supply delicious fragrance early in the morning and at night. It seems as if it were more terrestrial than epiphytal, and grows freely in any light well-drained soil. The patch sent by John Campbell Lees, Esq., from the Bahamas, to the Horticultural Society, consisted of a mass of pseudo bulbs that was nearly 2 ft. in diameter. (*Bot. Reg.*, the figure in June, the description in July.)

2547. *DENDROBIUM*. [Bot. mag. 3418
densiflorum Wall. densely-flowered ♂ ☒ or 1 mr orange-buff Nepaul 1829? D p.r.w.

The stem is jointed, club-shaped, compressed, and furrowed, and bears at the extremity about three broadly lanceolate leaves. The raceme of flowers is produced from the side, immediately beneath the lowest leaf, is longer than the leaves, recurved, bearing numerous, handsome, orange buff-coloured, scentless flowers. The figure is from a specimen produced in the collection of Earl Fitzwilliam, under the indefatigable and successful cultivation of Mr. Cooper, who had received the plant from the London Horticultural Society, which had received it from Dr. Wallich. (*Bot. Mag.*, July.)

2569. *ANGRÆCUM*. [Bot. reg. 1772
micranthum Lindl. small-flowered ♂ ☒ cu ½ f W Sierra Leone 1834? D p.r.w.

A very small and unattractive species, lately introduced by Messrs. Loddiges. It is quite distinct from any previously described. In addition to this from Sierra Leone, three or four other species are now in our gardens from the same place, but all of them equally inconspicuous with *micranthum*. Of these,

A. clandestinum, *teretifolium*, and *distichum* have already flowered with Messrs. Loddiges. (*Bot. Reg.*, July.)

2551. PHOLIDOTA. ("Pholis a scale, *ous*, *otos* an ear; in allusion to the scaly ear-like bractæ of the spike." *Lindley*, under the description of the species figured in *Bot. Reg.*, t. 1213., now to be called *pallida* *Lindl.*) 21. 1. Sp. 2. [reg. 1777]
imbricatà *Lindl.* imbricated-bracted £ [] cu 1? my Ysh Nepal 1824 D p.r.w Bot.
 Synonymy: *P. imbricatà* *Lindl.* in *Hook. Exot. Fl.*, t. 138.; *Loddiges' Bot. Cab.*, t. 1934.; *Lindley*, in *Bot. Reg.* t. 1777.
pallida *Lindl.* pale-flowered £ [] cu ½? ... W. India ... D p.r.w Bot. reg. 1213
 Synonymy: *P. imbricatà* *Lindley*, in *Bot. Reg.*, t. 1213.; but distinct from *P. imbricatà* *Lindley*, in *Bot. Reg.*, t. 1777., where Dr. *Lindley* has noted points of distinctness between the two, has abrogated the application of the epithet *imbricatà* to this second, and proposed the application, in the stead of it, of the epithet *pallida*.

"They principally differ in the following particulars. *P. pallida* has very round blunt bracts, white flowers, smaller leaves, and grows very weakly and unwillingly under ordinary circumstances. *P. imbricatà* has pointed bracts, yellowish flowers with a dash of violet, very long strong leaves, and grows and flowers most freely." The figure of *P. imbricatà* presented is from specimens communicated by R. Harrison, Esq. (*Bot. Reg.*, July.)

2564. V'ANDA. (The Hindoo name of the original species, *V. Roxbúrhii*.)
Roxbúrhii *Lindl.* [t. 506.; *Sims*, in *Bot. Mag.* 2245
 1 tessellàta *Hook.*, sepals and petals tessellated. Synonymy: *V. Roxbúrhii* *Br.* in *Bot. Reg.*,
 2 unicolor *Hook.* sepals and petals whole-coloured £ [] cu 5 ½... Chestnut brown ... [C p.r.w Bot. mag. 3416]

This second variety is figured from the collection of Earl Fitzwilliam, from a plant 5 ft. high, bearing several lateral branches, and throwing out many tortuous roots. In the flowers of the variety *tessellàta* *Hook.*, the upper side of the sepals and petals is of a greener hue and distinctly tessellated, like the corolla of the common fritillary; in the variety *unicolor* *Hook.*, this part is of an uninterrupted glossy chestnut-brown colour. The large middle lobe of the labellum is tinged of the same colour, instead of being purple, as in *V. Roxbúrhii* var. *tessellàta*. (*Bot. Mag.*, July.)

CCXLVII. *Asphodelææ*.

1066. STYPA'NDRA. [1823 C s.p.l. Bot. Mag. 9417
 8913a propinqua *Cun.* near akin to *S. glauca* £ [] or 1? sp azure Interior of New South Wales

Figured from Kew Gardens, where, though living from the time of its being introduced, it has not, under any mode of culture to which it has been subjected, shown itself a plant of free growth. In a dry warm part of a green-house it annually puts forth its pretty azure-perianthed yellow-anthered flowers in the spring. Its seeds have not yet been produced in Britain; it "may be increased by cuttings." (*Bot. Mag.*, July.)

[The Carnations and Picotees in the Collection of Mr. Hogg, Paddington, have been in high display of the beauty of their flowers since about the middle of July; they were deemed to be in the meridian of their beauty about the 17th or 18th. The varieties of yellow picotee, or picotee with yellow ground, are becoming numerous. Mr. Hogg has raised several seedlings of this kind, which are of high quality. — J. D.]

REVIEWS.

ART. I. *The Florist's Magazine ; a Register of the newest and most beautiful Varieties of Florist's Flowers : drawn from Nature, engraved and coloured in the most finished Style.* By F. W. Smith. With popular Descriptions and Practical Directions for their Cultivation. To be continued monthly. No. I., July, 1835. Royal 4to, 4 coloured plates, and 8 pages of letterpress. 4s.

THE subjects of the plates are these:—In plate 1., the Rosinante and Amelia pelargoniums, two varieties, raised by Mr. Dennis. In pl. 2., Page's champion auricula. In pl. 3., gloriosa superba, and bouquet pourpre, hyacinths. In pl. 4., rose camuse de Craiz tulip. We think that the figures are of a superior order, in both disposition and execution, and that they are skilfully coloured. The descriptive matter is excellent: it includes ideas botanical, poetical, and historical, besides a sufficient proportion, as we think, of those proper to the province of the florist. We are gratified in the proofs of the author's ability to attract, about the subjects of his work, associations so pleasing, and to describe these associations so ably. We wish that his undertaking may obtain that support from the public which may encourage him to proceed in the performance of it.

We gratify our vanity in noting a few imperfections, as they seem to us to be. In contrasting the characteristics of the genera Pelargonium, Geranium, and Erodium, the character, in Pelargonium, of the nectary adnate to the pedicel, should not have been omitted; in the character of Geranium, it would have promoted clearness to call the corolla of Geranium, bell-shaped, or basin-shaped. The expression "asweetly growing shrubby plant," does not inform us of the mode of growth. We feel, or fancy, some imperfection in the peduncle of the auricula, in its attitude, or in the mode of connecting it with the umbel of flowers. The word Primulacæ is used by the author in the sense of the word Primulæ: these are "among the earliest beauties of the year;" some of the Primulacæ are not in this case. Under hyacinth, "suaves," should be "suave." The hyacinth of Theocritus and Ovid has been deemed identical with, not the Hyacinthus orientalis of modern botany, but the rocket larkspur (*Delphinium Ajacis*); see De Candolle's *Regn. Veget. Syst. Nat.*, i. 342, 343., and the upper part of the corolla of this species of plant; a white single corolla is, we believe, fittest: characters more or less like the letters AI AI may be perceived there. J. Hogg, Esq., has, in his "Observations on some of the Classical Plants of Sicily," published in Hooker's *Botanical Journal*, argued that *D. pubescens* is rather the species which had been intended. On the tulip, should not "tulipmania" be "tulipomania," or "tulip

mania?" We should have liked the name of the tulip explained, and the application of it. We think that, in treating of flowers originated through man's agency, the genealogy of them should, in every practicable case, be accurately registered: the practice of this idea might induce the registering of a string of facts of efficient service to the student of vegetable physiology. It is true that the mode of the origin of new varieties is well known; but some instruction might result from the individual cases, were the details of these registered. — †

ART. II. *A History and Description of the different Varieties of the Pansy, or Heartsease, now in cultivation in the British Gardens, illustrated with Twenty-four coloured Figures of the choicest Sorts.* By J. Sinclair and J. Freeman. In 8vo Numbers, monthly, 6d. each; to be completed in 24 Numbers, each containing a coloured figure of one select variety, with descriptions, &c. London, 1835.

THE object of this work, we are informed in the introduction, "is to bring into notice all the choice and leading varieties of heartsease now in cultivation.

"Such has been the rapid increase of the pansy tribe within the last few years, that there are now among the London florists and nurserymen upwards of 400 named sorts, of almost every conceivable colour; yet there has never been any publication wholly devoted to the heartsease. Although there have been so many distinct varieties of the pansy raised of late years, the number of choice sorts fit to please the eye of the florist or amateur, is yet but limited. The subjects chosen to illustrate this work are those only which are considered really good, and form the first class of show flowers. The work is to be continued monthly, and will be completed in twenty-four numbers. Each number is to contain one variety, faithfully drawn and coloured from nature, with a full description of each figure, accompanied with their various modes of propagation, soil, and situation, with every other particular which may be calculated to promote the growth and culture of the heartsease." (p. 1.)

The first number contains one plate and sixteen pages of letterpress, all, as the technical phrase is, very well got up. We have seen some of the plates intended for future numbers, which are all beautifully engraved and coloured; and, indeed, from knowing the authors and their connexions in the botanical and horticultural world, we have no doubt that the work will be completed in good style, as, indeed, it ought to be, for it is dedicated to Mrs. Lawrence.

After an explanation of the terms to be used in describing the Pansy, are given a technical description of the order *Violariæ*, a generic character, and a description of *Viola tricolor* var. Allen's John Bull, &c. As a specimen of the practical matter we give the following paragraphs:—

"The results of various experiments relative to the growth of the Pansy, amount merely to this,—that, to produce fine large blooms, due attention must

be paid to soil, situation, and often transplanting, as young plants are always found to produce the finest-marked and largest blooms.

“*Soil and Situation.* — Pansies delight to grow in a cool shady situation, and in a light, rich, loamy soil. A composition of good loam, enriched either with rotten dung, leaf, or vegetable mould, will grow them in the highest perfection: yet they will grow and bloom abundantly in any good garden soil. But by proper soil, often transplanting, and due attention to shading, situation, and watering, you may have a succession of fine large blooms for nine months in the year.” (p. 16.)

Every one knows that pansies are easily propagated by cuttings, slips, layers, and seeds.

The History of the Pansy as a Florist's Flower. — Under the head of history of the pansy, our authors have only given descriptions, with the exception of the remark, that heartsease was represented by old writers as a powerful medicine, &c.; and that Mr. Lee of Hammersmith brought the choice varieties into cultivation. To supply this defect in No. I., we give the following, which has been communicated to us by a friend on whom we can place the utmost reliance: —

“The great beauty and variety of the *Viola tricolor*, now cultivated under the name of heartsease, pansies, &c., may be sufficient excuse for the following short remarks:—The first mention I have met with of pansies, or *three faces under a hood* (which latter is no inappropriate name), is in some manuscript papers which have passed through my hands, relating to the management and contents of Sayes Court Garden in Surrey, by the celebrated Evelyn, written in 1687, where pansies are enumerated in the list of ‘coronary flowers for the parterre and borders.’

“From that period, up to about 1810 or 1812, there appears to have been little attention paid to their culture; and, perhaps, the only varieties that occurred during that period were such as arose accidentally, and passed unnoticed, being less interesting than the original species *Viola tricolor*. So far as my information extends, I believe that the following may be considered as the commencement of their cultivation in distinct varieties.

“About the period above noticed, Lady Monke, then Lady Mary Bennet, had a little flower-garden in the grounds of her father, the late Earl of Tankerville, at Walton, who was a zealous cultivator of plants. In this latter garden was a figure of a heart, into which this amiable lady used to plant the varieties of pansies, which she accidentally discovered growing in her father's garden. Aided by the industry and zeal of Mr. Richardson, then and still gardener at Walton, several pretty varieties were raised or discovered, and transplanted to this little parterre. In 1813 or 1814, several distinct and striking varieties were thus obtained; and these having attracted the notice of the late Mr. James Lee of Hammersmith, he, availing himself of the intercourse then

opened with the Continent, applied to some of his correspondents in Holland, and procured from them a large blue variety, which is still occasionally seen in the old gardens, and which, as a matter of course, was soon added to the Walton collection. Mr. Reed, one of the foremen in the Hammersmith Nursery, turned his attention to the same subject; and, in course of a few years, twenty varieties were to be had in that splendid establishment. Mr. Richardson was no less active in enriching the Walton collection, both with seedlings of his own, as well as those of others; till, at last, the two collections became very numerous in varieties.

“A flower so pretty, and of such easy culture, thus became almost a general favourite; and it has now arrived at that point of perfection as to be ranked in the lists of florist’s flowers, a station which the pansy is likely to hold for some time.

It is but justice to remark that the Walton collection to this day maintains its credit as the first in the kingdom, not only on account of its being the oldest, but, also, the most select; although several nursery collections may be more numerous in varieties. — *J. M. Surrey, July 4. 1835.*”

MISCELLANEOUS INTELLIGENCE.

ART. I. *Foreign Notices.*

INDIA.

THE Discovery of the Tea Shrub in India. — *Botanic Garden, Calcutta, Feb. 16. 1835.* I do myself the pleasure to send you, enclosed, a copy of a paper on the extraordinary discovery which has been made, or rather confirmed, of late, of the true and identical China tea shrub growing wild in Upper Assam, within the Company’s territories, through an extent of hundreds of miles towards the Chinese frontier station of Yunnan, where the shrub is cultivated for commercial purposes. A more splendid discovery has never been made, in matters relating to the commercial or agricultural resources of India. A committee of tea culture was appointed early last year, consisting of some of the highest civil officers in Calcutta, some merchants, and two of the most enlightened Hindoos, namely Baboo Redu Radhacant Dib, and Baboo Ramcomul Sen. I am a member also; and since Mr. Gordon was deputed to China to send round tea seeds and plants, as well as Chinese cultivators and manufacturers, I have acted for him as secretary to the committee. Our instructions were, to enquire into the practicability of tea being cultivated in Hindustan on an extensive scale, for the sake of its leaf. This recent discovery of the tea of Upper Assam has placed the views and prospects of the committee on a footing of almost mathematical certainty. Who would have dreamt of the shrub growing wild so far east as 76°? Its geographical limits had hitherto, I think, been traced only as far as somewhere between 105° and 110° E. lon. in the northern part of Cochin-China. We have already established tea nurseries in the mountains of Kamoan, Sirmare, and Gurwhal, between the upper parts of the Jumna and the Ganges. A large consignment of bohea tea seeds has already been received from China; but we have now to look to

Assam only for our supplies of seeds ; for, like the seeds of all other varieties of perennials, bohea seeds will, in all probability, produce nothing but the common sort. A botanical deputation is going to be sent up to Assam, as soon as it is practicable, in order to institute, on the spot, all the enquiries that are necessary to render our information respecting the nature of the tea there as complete as possible. I am to head the mission, although a more fit person might easily have been found. All my arguments have availed me nothing, and the committee have determined that go Wallich must. However, I am to be aided by one or two accomplished botanists of my own recommendation, and they will more than supply my own divers and manifold deficiencies. Dr. Wight and Mr. Griffith, two of the most splendid naturalists that ever came to this or any other country, I hope will accompany me ; I have also named Mr. Nash, a most excellent man, recently come out. I wish my friend Royle was out here ; he would be the man, and he would most undoubtedly have been sent on this duty. Dr. Falconer has charge of the Gurwhal and Sermare nurseries, besides the Saharunpoor garden. In matters of pure botany and horticulture, I anticipate such a harvest as was never seen before. Think only to herborise under the shade of wild tea trees, in forests never in this world examined before !

I have sent to Mr. G. Loddiges the details of a very beautiful consignment of growing plants, which he and his worthy brother sent me lately in a *hermetically sealed* box (I may almost call it so). I wish you would make mention of this most extraordinary and novel mode in your Magazine. I have asked Mr. Loddiges to send you my letter, or an extract from it.—*N. Wallich*.

The letter alluded to by Dr. Wallich has not yet (July 10th) been received by Messrs. Loddiges. The mode of conveying plants alluded to is that practised by Mr. Ward for growing ferns, which is described at length by Mr. Ward himself (X. 207.). We have seen a letter from Mr. Traill, the head gardener to the Pacha of Egypt, in which he states that he had received several collections of plants packed in Mr. Ward's air-tight cases, perfectly safe and uninjured, which he never had done before by any mode of packing. In short, there can be no doubt that Mr. Ward's mode is decidedly superior to every other hitherto adopted ; and that by it living and growing plants may be sent, either by land or sea, from any one part of the world to any other part. The following are extracts from the pamphlet sent us by Dr. Wallich, on the subject of the discovery of the tea plant :—

Discovery of the genuine Tea Plant in Upper Assam.—“ It is with feelings of the highest possible satisfaction that we are enabled to announce that the tea shrub is, beyond all doubt, indigenous in Upper Assam, being found there through an extent of country of one month's march within the Honourable Company's territories, from Sadiya and Beesa, to the Chinese frontier province of Yunnan, where the shrub is cultivated for the sake of its leaf. We have no hesitation in declaring this discovery, which is due to the indefatigable researches of Captain Jenkins and Lieutenant Charlton, to be by far the most important and valuable that has ever been made, in matters connected with the agricultural or commercial resources of this empire. We are perfectly confident that the tea plant which has been brought to light will be found capable, under proper management, of being cultivated, with complete success, for commercial purposes, and that, consequently, the object of our labours may be before long fully realised. It is proper to observe, that we were not altogether unprepared for this highly interesting event. We were acquainted with the fact, that, so far back as 1826, the late ingenious Mr. David Scott sent down from Munipore specimens of the leaves of a shrub which he insisted upon was a real tea ; and from reports to the Governor-General on the north-eastern frontier, and his assistant, that a similar assertion was strongly urged in regard to the existence of the tea in Upper Assam. Still we felt ourselves bound to suspend our decision on the subject until we should be in possession of the fruit of the reputed shrub, the only test which ought to guide us. We

knew that several species of camellia were natives of the mountains of Hindustan, and that two of these were indigenous in our north-eastern frontier provinces ; and, taking into consideration the close affinity between the two genera, we were disposed to expect that the alleged tea would prove nothing else but some sort of camellia. We have at length obtained the fruit of the Sadiya plant from Lieutenant Charlton, and we are now enabled to state, with certainty, that not only is it a genuine tea, but that no doubt can be entertained of its being the identical tea of China, which is the exclusive source of all the varieties and shades of the tea of commerce. With the view of exhibiting the peculiarities in the structure of the fruit, on which depends entirely the difference between the tea and camellia, we have desired our officiating secretary to annex to this letter a sketch of the fruit of both, with explanatory remarks."

[Engravings from the sketches referred to will be found in the *Journal of the Asiatic Society of India* for January, 1835, and in the pamphlet from which this extract is made, of which copies are deposited in the libraries of the Linnean and Horticultural Societies of London, and in those of other public institutions.]

The chief obstacle to the culture of the tea, not only in the cooler regions of India, but also in various parts of America, and even the south of Europe,—possibly, even in the south of Ireland,—has always, as it appeared to us, been the difficulty of preparing it by the tedious manipulation in use among the Chinese. It is unreasonable, however, to suppose that this excessive manipulation is necessary. Tea leaves, or young shoots of the tea shrub, may be dried like hay, or, as the young shoots of the birch and other trees are in Sweden, then fermented to any degree that may be necessary ; that is, if fermentation be necessary at all ; and afterwards compressed into cakes, almost as solid as chocolate, by a Bramah press. In this state it would lose none of its virtues for many years, and might be sent from one part of the world to another in little bulk. The taste would, doubtless, be different from that which tea has at present ; but, if it were found to be equally wholesome, the prejudice in favour of the present taste would, like all other prejudices, be got over in time. It appears, from a statement in the pamphlet above quoted from, that the Singphos and Kamtees are in the habit of boiling the stalks and leaves, and then squeezing them into a ball, which they dry in the sun, and then retain for use. — *Cond.*

ART. II. Domestic Notices.

ENGLAND.

HIGH CLERE, June 1. — The hybrid tree rhododendrons, after being two or three days splendidly in flower, were suddenly blackened by frost about a month ago. At present the common rhododendrons and the azaleas are in their greatest beauty : they are about three weeks later than they were last year, but, on the whole, they are much finer. — *T. M. Lindsay. High Clere Gardens, June 1. 1835.*

Coniferae propagated by Cuttings. — *Abies Webbiana*, amabilis, nobilis, *Pichta*, Menziessii, and *Morinda*, and *Cedrus Deodara*, propagated freely from cuttings either in spring or autumn. I struck several plants of each of these last autumn, and intend trying, next autumn, cuttings of every species of *Coniferae* that I can procure, and letting you know the result. — *Id.*

The fact of so many species of *Abies* striking so very freely from cuttings ought to encourage gentlemen to plant pinetums. To those who have never seen the species named by Mr. Lindsay, we may mention that *Abies Webbiana* is a silver fir, only on a very large scale, the leaves being double the width of the silver fir, and the young shoots of double the thickness. It promises to be the king of the fir tribe. *Cedrus Deodara* resembles the cedar of Lebanon,

only its leaves are so glaucous as to be almost white. It is perfectly hardy, and promises to be a very striking tree. *Abies Menzièsii* and *Morinda* are of the spruce fir section, and grow very freely. If there were a demand for all these species in the nurseries, they would soon be as common, and as cheap, as cedars of Lebanon. Again we strongly recommend them for pinetums.—*Cond.*

Tilia europæa var. *rubricaulis*. — This variety, we are informed by M. de Wael the director of the Botanic Garden of Antwerp, is quite distinct from our *Tilia europæa* var. *rùbra*, or var. *corállina*, or from any other variety which he has seen in this country. It was raised from seeds in the garden of Baron Eckeren, near Utrecht, from which place it was sent to the garden of the Château de Cantecroy, whence M. de Wael procured cuttings. The tree in this garden appears to be about ten years old. Cuttings will be sent to the garden of the Horticultural Society; and, if it should be found to be really a distinct variety, it may be afterwards distributed to nurserymen and amateurs.

A'cer Pseudo-Plátanus var. *fòl. argénteis*. — M. de Wael says he has a very distinct variety, of which he has also promised cuttings to the Horticultural Society.

Plánera ulmifòlia, or *aquática*, or *Gmelini*, or *americàna*, for it has all these names, is a species quite distinct from the trees of *Plánera* in the arbo-retums at Kew, at Loddiges, and in the Chiswick Garden; but, as a timber tree, it is of no value. Specimens of it have been brought to us from the Paris garden, along with a number of others from that quarter, M. Vilmorin, and M. Cels, by Mr. Lawson, the eminent seedsman of Edinburgh. This gentleman has laid us under the greatest obligations to him, both for his kind services while on his recent tour on the Continent, and for his great exertions in sending our return papers to different parts of Scotland. The account of the specimen trees in Mr. Lawson's nursery has been drawn up with so much accuracy, and contains so much valuable information, that we contemplate giving it entire in a future Number.—*Cond.*

A'cer circinátum, of which I send specimens in flower, appears to be a tree of considerable beauty, though of slow growth, preferring to any soil I have seen it in that of a very light sandy peat earth. I should say that, from its slowness of growth and present appearance, it is likely to form, when large, a very compact and highly ornamental tree: in fact, I believe it was represented as such in its natural habitat by its introducer, the unfortunate Douglas. It propagates freely by layering. — *T. M. Lindsay. High Clere Gardens, June 1. 1835.*

Gladiolus natalénsis has remained uncovered all last winter, and is now growing with great luxuriance, equal, if not better, than those bulbs of it which were taken up in the usual way.—*Id.*

A Head of late White Broccoli was lately exhibited in the shop window of Mr. B. Saunders, in Halket Place, Jersey, weighing upwards of 7 lb., measuring 3 ft. in circumference, and perfectly solid: also ten heads of asparagus, weighing 1 lb., or upwards of an ounce and a half per head. (*Jersey British Press, May 10. 1835.*)

SCOTLAND.

The Watt Institution at Dundee appears to be one of the most complete and best conducted associations of the kind in the kingdom. By the *Eleventh Annual Report*, which has been forwarded to us, we find that a great many lectures have been delivered on almost every subject, and also a great many books collected. It is greatly to the honour of the citizens of Dundee, that many of these lectures have been delivered by tradesmen. For example; on Vegetable Irritability, Parasitic Plants, Form and Use of the Nectaria and Corollæ, three lectures by W. Gardiner, jun., umbrella-maker; on Galvanism, by Alexander Blaikie, flax-dresser; on the Natural Arrangement of Plants, also by W. Gardiner, jun.; on Gases, by John Murray, flax-dresser; and so

on. We hope we shall soon hear of nurserymen, and other members of the gardening profession, giving lectures on the sciences more immediately connected with the art of culture ; and farmers' sons, we have no doubt, will soon become ambitious of cooperating in pursuits so much more elevating than many which formerly used to be indulged in as relaxations. The library of the Watt Institution contains a great number of volumes, to which we have added Vol. I. of the *Architectural Magazine*.

Acacia affinis (dealbata Lk.). — This is the nursery-garden name for a very ornamental mimosa from Van Diemen's Land, which is now found to be capable of withstanding our ordinary winters in Scotland. It seems to be a variety of *Acacia mollissima* of Willdenow, which Link regarded as a species, and called dealbata, but which De Candolle, in his *Prodromus*, marks as "Priori (mollissimæ) nimis affinis." Hence, probably, has arisen the above name. For its foliage alone, this mimosa is highly desirable ; its finely divided and beautifully bipinnate leaves giving it an air of light and graceful elegance. Its numerous bunches of yellow flowers, resembling little balls, add greatly to its value ; for these flowers are fragrant, and they expand at a season (February and March) when flowers are most wanted. Some seeds of this tree were received by Mr. Neill, from his relations in Van Diemen's Land, in 1823, and raised in his garden at Canonmills. The plants having, in the course of two or three years, become too rampant for the green-house, one was placed against the south wall of his dwelling-house ; and another was planted on a rockwork as a standard shrub. In 1832, the tree trained against the house was about 14 ft. high, and it produced a few blossoms in the spring of that year. In each succeeding season it has been clothed with flowers from the middle of February till the middle of April ; and it is now about 20 ft. high. The individual planted on the rockwork has remained rather stunted ; but it has never suffered materially from the frost, though repeatedly exposed to a cold of 25° Fahr. In March last (1835), this standard showed a sprinkling of flowers for the first time. A much finer standard specimen exists in the rich and noble lawn in front of the splendid suite of hot-houses in the Royal Botanic Garden of Edinburgh. This specimen is luxuriant, perhaps 15 ft. or 16 ft. high ; and it is now (April) adorned with its flowers for the first time. This species of acacia has been cultivated against the north wall of the same admirable garden, along with many other rare Australian and tropical American trees, and has there flowered for two or three seasons past. In the Experimental Garden, Inverleith, there is, near to the superintendant's lodge, a very pretty standard acacia of the same species, about 12 ft. or 14 ft. high, but which has not yet yielded flowers. In Mr. Urquhart's nursery-garden at Dundee, there was, some years ago, a large plant of the same kind ; it was situate near to, but not trained against, a wall, and had not then produced flowers. Upon the whole, we may safely conclude that the very handsome and elegant *Acacia dealbata* may be added to the list of our hardy ornamental shrubs or smaller trees. A remarkable peculiarity remains to be noticed : while the delicate foliage is not materially injured by the cold of our winter, the bark of the stem is liable to split, or become cracked, in the time of hard frost, especially for a few feet above the ground ; and then disease and death are extremely apt to ensue. The preventive is simple, consisting merely in tying some straw around the stem in the end of November, and removing it when the severity of winter has passed. — *P. Neill. Canonmills, May 9. 1835.*

Psidium Cattleianum. — In the vinery at the Experimental Garden, a small tree of the *Psidium Cattleianum*, or China Guava, has ripened its fruit freely for two years past. The fruit is round, about the size of a small plum, of a fine claret colour ; the pulp is soft, only a little firmer than that of a strawberry, and of a delightful subacid flavour. Mr. John Robison, secretary of the Royal Society of Edinburgh, who had tasted the fruit in India, declared the Experimental Garden specimens to be nowise inferior in quality. These home-grown guavas were found to make most desirable preserves. — *P. N. Edinburgh, June, 1835.*

ART. III. *Retrospective Criticism.*

THE Metropolitan Society of Florists. — It is very evident, from your remark on the dispute between the Metropolitan Society of Florists and the proprietor of the Surrey Zoological Gardens, that an impression unfavourable to the Society exists in your mind: this, no doubt, originates in your not being acquainted with the whole of the circumstances, and, also, in identifying the members of the Society with the injudicious, intemperate, and vulgar abuse promulgated by an individual. As it is necessary that the Society, to be useful, should stand well in the estimation of the public, and as it is known how much weight any thing stated by you is likely to have, I shall, as a member of the Society, feel obliged by your giving insertion to the following statement:—

It was the wish of the managers of the Metropolitan Society, that one or two shows should take place at the Zoological Gardens. In the spring some negotiation took place with the proprietor of the gardens, or the person who acts for him. Considering how advantageous the shows were to Mr. Cross last year, the Society naturally expected that there would be no hesitation, on the part of this gentleman, to make a more liberal offer to the Society this year; but this he objected to: consequently the negotiation was not proceeded in, although, I believe, it was not finally broken off. In the mean time it was found that Mr. Cross had advertised for a show on his own account, to take place only a day or two before the Metropolitan show. When this was communicated to the members, they felt that Mr. Cross was acting unhand-somely by them, and, therefore, passed a resolution, recommending that the individuals belonging to the Society should not countenance the Surrey show, by sending plants, &c. At a subsequent meeting, the day previously fixed for the Metropolitan show was altered to June 15., on its being stated that the grand Ascot races were to take place on the 18th. Thus far, Sir, the members of the Metropolitan Society are only responsible: whether they were justified in the course they have pursued, I leave you, Sir, and the public to judge; but I must, in justice to the members generally, acquit them of any knowledge or participation in the gross abuse which has been heaped upon individuals: this has, I believe, emanated from one member only, an influential one I admit; but it is too much that the Society should suffer in the estimation of the public from his improper and disgraceful conduct. — *A Member of the Metropolitan Society of Florists.*

The White Scale on Pine-Apple Plants. — In p. 186., a correspondent in the North Riding of Yorkshire, who signs himself J. B. W., has given an interesting paper on destroying the white scale on pine-apples, together with some observations on the natural history of that insect. The subject is of great importance to horticulturists generally, but more especially so to the young ones, as it tends to demonstrate the necessity of our looking vigilantly into the habits of the different species of insects incident to the plants under our charge. But, as I do not altogether coincide with J. B. W. in his opinion on this subject, and as I consider the only effectual remedy for the eradication of errors is to attack them whenever they present themselves, I beg leave to offer a few remarks on the subject.

In the first place, I cannot agree to the assertion, that, “of all the remedies hitherto recommended for the eradication of the white scale, not one has been found to effect the desired end with certainty.” Now, on the contrary, I am convinced, for I have had ocular proof, that several of the remedies now practised, and which have been practised for many years, will effect the desired end if properly applied; and I may further observe, that it ought not “to be laid down as an unexceptionable rule, that no recipe ever has succeeded, or ever will succeed, which does not enjoin the removal of every insect previously to the application of the ingredients,” since I have myself seen the scale perfectly eradicated, and that, too, on a stock of near one thousand plants, without the precaution of removal being once thought of. It has often been

observed, that the most simple remedies are frequently the most effectual, and the success in this case confirms the fact; for very simple means were used with the most satisfactory result. The plants were syringed with soap lees from the wash-house, heated to 110° , every morning for one week, and the frame or pits kept perfectly close until the thermometer registered 120° ; when, if the sun were sufficiently powerful to dispel the moisture as it was deposited on the glass, mats were thrown over the frame during mid-day. This shading will not always be necessary, and, in fact, at no time, provided a dense vapour is kept up in the frame; for I am certain that plants under glass will never take injury from the heat of even a July sun, if there is sufficient moisture in the frame to keep the glass constantly moist, and there is no air admitted. Thus, with these simple means, and but one week's trouble, the scale was destroyed, and there has not been the least sign of it since. — *L. O'L. Chiswick Gardens; May 20. 1835.*

The Substitution of Pavement for Gravel. — I am an advocate for the substitution of pavement for gravel, to a certain extent, for garden walks. I was very much pleased with what you say on the subject in p. 291. It is somewhat singular that I should have recommended this plan to a friend of mine, about six months ago, for a small garden which he has at the front of his house, in the neighbourhood of Dalston; and, on reading your article, I was struck with the coincidence of ideas which seems to exist between us; and which did not arise in my mind from what you had written before upon the subject, as intimated in that article, which, if ever I did read it, has quite escaped my recollection; from which I am led to suppose that it was only cursorily treated on. [Nothing more; we cannot even find the place where we mentioned the subject.] If a peculiar adaptableness exists in substituting pavement for gravel, I think it is to be found in the small gardens which form the frontages of houses in the vicinity of the metropolis, or elsewhere: how far it may be advantageous upon a large scale remains to be proved. For kitchen-gardens I think an edging of the same material would be desirable, in order to keep the earth from washing into the walks during heavy rains; but this, unfortunately, would enhance the price in laying it down: the same will also apply to the flower-garden or shrubbery, where there is no verge of grass, or edge of box, thrift, or some other substitute. If employed for the walks in a kitchen-garden, it should be very substantially laid down, so that wheeling upon it may not cause the least derangement; and, if on a long line of level, a little descent towards one side will be necessary, with small gratings or holes left open at the lowest side, at proper distances, to take off the water; and which, indeed, it will be necessary to take into account on every occasion, particularly when the edging is of the same material. The expense of a drain may be avoided, by leaving small openings in the edge, with gutters formed in the soil, to take off the water into the quarters or the shrubbery. However, the expense of edging may be saved by laying down the pavement quite as high as the soil on either side, which might do well enough for kitchen-gardens; but for the parterre, or pleasure-ground, it would have a bad effect.

Were I to lay down a paved walk in a kitchen-garden that was pretty level, I should be inclined to lay the pavement about 4 in. or 5 in. below the general level of the garden, and allow a foot in width on each side, for the soil, when levelled, to be a trifle lower than the level of the pavement, where I should plant a row of strawberries, which, during the summer, would



form a sort of edging; and this would appear something like the following sketch (*fig. 64.*), which, I conceive, would give a tolerably good finish to the whole, and, at the same time, save all expenses of edges and draining.

For small parterres, and such gardens as are above alluded to, I think the pavement would be preferable to gravel in all respects but one, namely, the colour; and in this, gravel will most likely carry the palm, as it forms, perhaps, a more pleasing feature to the eye than pavement. How far custom may go to form this prejudice in the mind, I can hardly say, but I think it will be

generally allowed that gravel, when of a good colour and well kept, produces an agreeable contrast when associated with the grass verge, or edging of any other kind. — *T. Rutger. Portland Place, July, 1835.*

We have lately had laid down between 20 ft. and 30 ft. of walk, including edgings, formed of a description of artificial stone, which the inventor calls lava; and which he recommends as being fit for public roads, footpaths, and a great variety of purposes. In colour and appearance it resembles a yellow sandstone; but whether this colour will be retained as the stone wears, and whether the stone itself will be sufficiently durable to justify its use, are questions that can only be determined by experience. Some account of this stone, and its pretensions, will be found in a tract entitled *A Treatise on Roads and Streets, &c.*, by J. H. Cassell; 18mo; 1835. — *Cond.*

Rowland's Metallic Wire for tying up Trees, &c., noticed p. 318. — With the specimens of different sizes sent us by Mr. Rowland we tied zinc labels to upwards of a hundred trees, in the garden of the Horticultural Society, in the course of the month of June. The labels were, in general, loosely suspended near the extremities of the branches, in order that they might be more conspicuous. In this situation they were, of course, powerfully acted on by the wind, the consequence of which is, that many of them have already (July 8.) dropped off, in consequence of the friction produced by the motion of the label having worn through the lead wire. We think it due to our readers to state this, because it proves that, however fit the wire may be for other garden or nursery purposes, it cannot be recommended for use where the labels it suspends are liable to be much moved by the wind. — *Cond.*

Metropolitan Arboretum. (p. 284.) — I am afraid your plan of enclosing 100 acres to grow hardy trees will cost too much, unless it could be combined with something bringing a return. Might it not be associated with a general cemetery on a large scale? I can see nothing objectionable. — *J. P. Chatsworth, June 10. 1835.*

A speculation was set on foot for forming a "Great Western Cemetery" of the grounds of Norland, at Notting Hill, on the Bayswater Road, about a year or more ago. We were applied to, to give our advice as to the laying out of the area; and our answer was, that, provided they would plant it as an arboretum, and not introduce a single duplicate of either tree or shrub, we would furnish a plan gratis. Unfortunately, the speculation did not go on; but it may possibly be revived. At all events, there are several large public cemeteries wanted for the metropolis; and we hope that, when they are formed, they will all be laid out as arboretums, or public gardens of some sort. This, to a certain extent, has long been the practice on the Continent; and we observe, with pleasure, that it is becoming general in North America. Judging from our own feelings, when examining the cemeteries of Italy in 1819, and of Germany in 1814 and 1828, we should say that trees and graves lend a great reciprocal interest to each other. In the neighbourhood of Moscow, the German Protestants have a cemetery in a birch wood, which always struck us as a place of intense interest. At the dirty little frontier town of Tycokzin, in Poland, where we spent four months in 1813, there is a large cemetery used as a burial place for the Jews, who are the principal inhabitants of the town. That cemetery forms one grove of willow, birch, and poplar trees, under the shade of which we have walked backwards and forwards many an hour — painful at the time, because we were detained in the town against our wishes; but intensely interesting the remembrance, because it is only the strong impressions of pain and labour that can be recalled with entire satisfaction; perhaps from the feeling of joy that they are passed. All mere pleasure is evanescent; perhaps because, if intense, it can never be recalled. — *Cond.*

The Coiling System of Vine Culture by Mr. Mearns. — On my return from visiting the gardens of His Grace the Duke of Portland at Welbeck, in Nottinghamshire, and some others in that neighbourhood, in the end of June, I was rather interested with a communication in the last Number of the *Gard. Mag.* (p. 362.), by Mr. Fish, on the coiling system of vine culture in pots; giving a

detailed account of the treatment pursued by himself, his ultimate failure, and unqualified disapproval of the system. That Mr. Fish has been unsuccessful in his first trial will not, I imagine, excite any surprise in the minds of those who are acquainted with the practical operations of gardening; for, to use Mr. Fish's own words, "he judged from first principles;" and as, unlike those of a mechanical science, principles in the art of gardening are liable to a vast number of exceptions, success can never be insured by a literal adherence to prescribed rules; a fact, with which, I think, I may fairly presume few persons are better acquainted than Mr. Fish. It may, therefore, be mentioned that the efforts of even the most skilful practitioner, although made on sound and clear principles, are, nevertheless, attended with many probabilities of disappointment; and, although the trial made by Mr. Fish is deserving of consideration, he will, I am sure, readily admit that the general way in which he has alluded to those "individuals" to whom he applied for information respecting the result of their experiments, as well as "all" those of his acquaintances in his own neighbourhood, without even giving a single name, is not a very definite or satisfactory mode of reasoning, and scarcely fair in a case like the present, where it is clearly meant as evidence to prove that Mr. Mearns has published an untruth. So far, however, as Mr. Fish's own experiment is concerned, it ought to be borne in mind the more particularly, as he has himself candidly admitted the fact, that his own mind was unfavourably biased previously to making the experiment. It may also be worthy of remark, that the trial was commenced in the beginning of December, and the result forwarded for publication by the 24th of March. It is, therefore, to be regretted, that one whose abilities eminently qualify him either to benefit or injure a cause did not content himself with stating the result of his own experiment, or, if accompanied with comment, to use such language only as, on cool reflection, he himself could approve, and as one gardener has a right to expect from another. As the whole of Mr. Fish's paper is, of course, intended to apply to Mr. Mearns, few, who know any thing of the latter, will differ from me in thinking that he had reason to expect to be addressed in more respectful language than such as "the delusive vanity of individuals, who, in order to bring themselves into prominent notice, have, without sufficient proof," &c. It is surely unnecessary to mention, that, as a first-rate horticulturist, Mr. Mearns has stood at the head of his profession for nearly thirty years; and, if proof of this be required, abundant evidence will be found in the *Encyclopædia of Gardening*. It may be further remarked, that, among the senior branches of the profession, there are many valuable practices in gardening that have never yet been given to the public; but, unless gardeners are protected, and their opinions treated with more courtesy than has been the case with Mr. Mearns, in this instance at least, it is to be feared but few of them will venture to publish.

Within the last three years the gardens at Welbeck have undergone the most complete renovation of any place with which I am acquainted. The vegetable and forcing departments, in addition to the walls and hot-houses being stocked with healthy trees bearing excellent crops of fruit, have all that neat and pleasing appearance common to a new garden. The melon ground is within the walls, and heated with steam through perforated pipes; there are no linings to displease the eye, and the spaces between the pits being covered with gravel, gives the whole an unusually clean and orderly appearance. In passing through the hot-houses, among many other coiled vines of this spring that were bearing fruit, I particularly noticed one in a square box, labelled "excited, Feb. 1835," and counted 15 bunches of fruit on it, with the berries well swelled and coloured. The others were chiefly black Hamburgh muscats, sweet water, &c., in pots of sizes from 16 to 12. The shoots of old wood, above the soil, were from 18 in. to 6 ft. and upwards; the pots were placed on the front and back curb of the back flue, &c. of the pine-stoves. Many of the shoots, when coiled, would appear to have been very small. There were also many pots labelled "1834," bearing a still greater quantity of fruit than those of 1835, differing, however, but little in the size or colouring of the fruit.

Having at the time no intention of giving any report of my visit, I made but few notes, and cannot, therefore, do the justice to Mr. Mearns that he deserves. He will, however, I trust, pardon the liberty which I have thus taken, and, as a friend, excuse me for saying that he is liberal-minded and unreserved even to a fault; and, so far as the coiling system is concerned, the pains which he has taken to diffuse as widely as possible the result of many years' experience, is certainly the cause of its being made a point. Had Mr. Mearns acted as is but too commonly the case with men at his time of life, and withstood repeated invitations to give the public the benefit of his experience by publishing, through the medium of garden periodicals, whatever might be valuable as a garden practice, his coiling system would have then been looked upon, as it ought, to be a highly useful discovery. As Mr. Mearns, however, has nothing to fear from investigation, I will venture to add that those persons who are still disposed to doubt would do well to take an early opportunity to visit Welbeck, and judge for themselves: they will then, I think, find sufficient to convince even the most sceptical, that the system is both advantageous and practical. I shall feel obliged by your giving this insertion in the next Number of the *Gardener's Magazine*.—*R. Marnock. Sheffield Botanic Garden, July 10. 1835.*

ART. IV. *Queries and Answers.*

THE Growth of the Oak Tree.—Has there anything been published that would enable me to determine with accuracy the proper age at which to cut down old oak trees? There must be a period in the growth of every timber tree at which its increase becomes so small, as that it would not pay the annual interest of the sum which the tree would sell for. Is there any approved, definite, and practicable plan by which this can be ascertained? It occurs to me that the point might be determined with sufficient accuracy by taking the girth of the tree at a certain distance from the ground. Whether the tree had a long clean trunk, or a short thick trunk with a branchy head, might, perhaps, affect this test; in which case, perhaps, it would be necessary to make the height of the trunk, as well as its circumference, an element in the calculation desired. I wish much that you would direct the attention of some of your correspondents to this subject. It would afford me much pleasure to see it taken up by some one, or by several, of the various writers who contribute to the *Magazine* on arboricultural subjects.—*A Proprietor of Timber Trees in Kent and in Hampshire. July 7. 1835.*

[We hope such of our readers as have any positive information on this subject, or as know where it is to be procured, will let us hear from them. Every contribution, however small, will be useful towards the solving of such an important problem. We hope such contributions will be made soon, not only for the sake of our esteemed correspondent the querist, who is a great patron of gardening, and a lover of trees and of picturesque beauty, but because the information will be most acceptable for our *Arboretum Britannicum*. Something on the subject, by Marsham and others, will be found in the *Royal*, and in the *Bath Society's Transactions*, and in the *Transactions of the Society of Arts*, and something, also, in Hunter's *Evelyn*, and in the works of Marshal, Sang, and Monteath; but nothing, we believe, sufficiently definite for practical use.—*Cond.*]

American Magnolias in China.—In reply to the query p. 325., I am able to say that Mr. Beale has, in his garden at Macao, a tree of *Magnolia grandiflora*, which, when I saw it last, in 1830, must have been 20 ft. high. From this tree Mr. Beale has struck off several branches by the Chinese mode of abscission, and distributed the young plants to some of the Chinese merchants at Canton, and to some of the inhabitants of Macao. He has done the same, also, with a smaller tree, which, from the very ferruginous appear-

ance of the under side of the leaf, I think was *Magnolia g. elliptica*. Besides these, he had received from America *Magnolia glauca*, and a fourth variety, which, if I remember right, was *M. auriculata*. The two latter plants had then been but lately received; but, as they were in good health, I have no doubt they have also been propagated and distributed, and now are, as well as the two former, established in China. — *J. Reeves. Clapton, June 3. 1835.*

Salisburya adiantifolia. — In answer to your queries, I have a plant of the *Salisburya* planted by myself twenty-six years ago, which has never flowered; and I went to Cypress Grove, soon after receiving your note, to examine the oldest plant I am acquainted with in Ireland, which has been planted at least forty years, and, I believe has never yet flowered: it certainly has not done so this year. — *J. T. Mackay. Dublin, June 29. 1835.*

Viscum album (the Mistletoe) in Ireland. — With respect to the mistletoe, I have the best specimen I am acquainted with in Ireland. It was sown by myself, on a Siberian crab tree, about twenty-six years ago: it is a male, and was the only one that grew out of above a hundred that I sowed on different kinds of trees; some upon the oak. I have been lately informed by the Archbishop of Dublin, who imported seeds this year, that the probable cause of the failure has been owing to their being too early sown, and that the spring is the best time for sowing them to insure success. When I first came to Dublin, there was a fine mistletoe on an apple tree in the garden of Dr. Rennie, at the Royal Hospital near Dublin; but the tree died about ten years ago, and the mistletoe, of course, died with it. This specimen was mentioned by a writer (I believe Rutley) above ninety years ago. I have heard of plants of the mistletoe existing in other parts of the country, but they certainly are of rare occurrence in Ireland. — *Id.*

The largest flowering Tulip Trees, near Dublin, are at Cypress Grove, and Leixlip Castle, the Honourable Mr. Cavendish. I have observed them to flower regularly for the last thirty years; and they have, probably, been planted at each place above sixty years — *Id.*

Ronce d'Hongrie. — When in the south of France, I heard much of the merits of a plant called there the *Ronce d'Hongrie*; but I failed to procure a specimen: could any of your correspondents inform me whether it may be the *Rubus sanguinolentus*, introduced from the Isle of France in 1824? — *E. Llandovery, July 4. 1835.*

The Double Yellow Rose, I find, blooms well in the hills of Caermarthen-shire, dressed with bog earth, against a south-east wall; but it is subject to occasional blight. — *Id.*

The Rôsa Banksiæ, also, throws out in Caernarvonshire, when much clipped (even with common shears), an increased quantity of blossom. — *Id.*

Evergreen Shrubs are stated to be planted in the floors of the towers of Lougharne Castle, in Caermarthenshire, by Major Starke. (*Beauties of England and Wales, Caermarthenshire*, p. 379.) Can any of your readers inform me of the effect of these shrubs; whether they still exist, and whether this kind of improvement is desirable? I ask this question, because I happen to be the proprietor of a great mass of ruins of no architectural interest, and I am desirous of making something of them, so as to render them ornamental as well as venerable. — *J. W. C. Cavan, Dec. 1833.*

ART. V. *The London Horticultural Society and Garden.*

OF the Exhibition at the Garden, on Saturday, July 4. 1835, the following is the award of the judges:—

The Gold Banksian Medal. 1. For pines, from J. J. Guest, Esq., F.H.S.; 2. For black grapes, from Mr. Dowding, gardener to Lady Clarke; 3. For orchideous plants, from the Messrs. Loddiges; 4. For a miscellaneous collection of plants, from Mrs. Lawrence, F.H.S.; 5. For garden roses, from Mr. S. Hooker, F.H.S., of Brenchley, near Lamberhurst.

The large Silver Medal. 1. For balsams, from Mr. Cock, jun., of Chiswick; 2. For pelargoniums, from Messrs. Colley and Hill of Hammersmith; 3. For sweetwilliams, from Mr. Mountjoy of Ealing; 4. For seedling Spanish irises, from Mr. Salter of Shepherd's Bush; 5. For granadillas, from Mr. Miller of Bristol, F.H.S.; 6. For grapes, from Mr. R. Buck of Blackheath; 7. For a black Antigua pine, from J. R. Neame, Esq., F.H.S.; 8. For a miscellaneous collection of plants, from Mr. John Green, gardener to Sir E. Antrobus, Bart., F.H.S.; 9. For a miscellaneous collection of plants, from Messrs. Rollisson of Tooting; 10. For garden roses, from Mr. Paul of Cheshunt; 11. For garden roses, from Mr. Platt, gardener to Wm. Harrison, Esq., of Cheshunt, F.H.S.; 12. For garden roses, from Messrs. Rollisson of Tooting; 13. For garden roses, from Mr. Rivers of Sawbridgeworth; 14. For China roses, from Mr. Paul of Cheshunt; 15. For China roses, from Mr. S. Hooker of Brenchley, near Lamberhurst, F.H.S.; 16. For China roses, from Mr. Rivers of Sawbridgeworth.

The Silver Banksian Medal. 1. For picotees, from Mr. Hogg of Paddington; 2. For China roses, from Mr. Glenney of Twickenham, F.H.S.; 3. For dahlias, from Mr. Hopwood of Twickenham; 4. For seedling strawberries, from Mr. Jonathan Turner of Strand on the Green; 5. For seedling strawberries, from Mr. Falconer, gardener to Archdale Palmer, Esq.; 6. For peaches, from Mr. John Stewart, gardener to Lord Ashburton, F.H.S.; 7. For currants, from Mr. John Wilmot of Isleworth, F.H.S.; 8. For melons, from Mr. George Mills, F.H.S., gardener to Mrs. Copland of Gunnersbury Park; 9. For cucumbers, from Messrs. Clews and Co. of Acton; 10. For apples, from Mr. W. Davis, gardener to John Disney, Esq., F.H.S.; 11. For melons, from Mr. Kyle, gardener to R. Barclay, Esq., of Layton; 12. For nectarines, from Mr. Kyle, gardener to R. Barclay, Esq., of Layton; 13. For *Thunbergia leucantha*, from Mr. Wm. Wright, gardener to the Hon. Mrs. Rushout, F.H.S.; 14. For a miscellaneous collection of plants, from Messrs. Colley and Hill of Hammersmith; 15. For a miscellaneous collection of plants, from Mr. Gaines of Surrey Lane, Battersea; 16. For cockscombs and hydrangeas, from Mr. George Mills, F.H.S., gardener to Mrs. Copland; 17. For cockscombs and petunias, from Mr. Falconer, gardener to Archdale Palmer, Esq.; 18. For *Spiræa argentea*, from the Countess Amherst, F.H.S.; 19. For a miscellaneous collection of plants, from Messrs. Chandler and Co. of Vauxhall; 20. For a miscellaneous collection of plants, from Mr. James Lane, gardener to J. H. Palmer Esq., F.H.S.; 21. For perpetual roses, from Mr. Rivers of Sawbridgeworth; 22. For garden roses, from Mr. James Young of Epsom, F.H.S.; 23. For climbing roses, from Mr. Rivers of Sawbridgeworth; 24. For China roses, from Mr. James Young of Epsom, F.H.S.; 25. For heartsease, from Mr. Gaines, Surrey Lane, Battersea; 26. For heartsease, from Mr. Mountjoy of Ealing.

July 7. 1835. — At the Society's Office, 21. Regent Street. *Exhibited.* A collection of pelargoniums, and one of heartseases, from Mrs. Lawrence. *Erýngium alpinum* and *Magnolia grandiflora*, from Mr. Kirke. A collection of roses, from Mr. Young of Epsom. *Elæocarpus cyaneus*, *Eschscholtzia californica* with supernumerary petals, *Sálvia* sp., and a variety of *Clárkia elegans*, from Mrs. Marryat. *Rösa microphylla*, from E. Johnston, Esq.

From the Garden of the Society. *Alstroemèria aúrea*, *Solànum etuberòsum*, *Chelòne centranthifolia*, *Antirrhinum majus* double-corollaed variety, *Linum monógynum*; *Eschscholtzia crócea*, *crócea* new var., and *californica*; *Calandrinia speciosa*, *Gilia tricolor* and *achilleæfolia*, *Stenactis speciosa*, *Eutoca viscida*, *Calliprora flava*, *Phacelia tanacetifolia*, *Lupinus ornatus* and *nanus*, *Collomia coccinea*, *Gypsophila elegans*, *Spiræa ariæfolia*; *Pentstemon pulchellus*, *diffusus*, and *atropurpureus*; *Clématis erecta*, *Delphinium grandiflorum*, *Ænothèra speciosa* and *macrocarpa*, *Collinsia bicolor*, *Potentilla Russelliana*, *Phlox acuminata*, *Verbena venosa*, *Catananche bicolor*, *Chelone nemorosa*, dahlias, border roses, Chinese roses. Strawberries: Elton, Down-ton, American scarlet. Cherries: Elton.

ART. VI. Covent Garden Market.

		From	To			From	To
		£ s. d.	£ s. d.			£ s. d.	£ s. d.
<i>The Cabbage Tribe.</i>							
Cabbage, per dozen :				Lavender, per dozen bunches		0 3 0	0 4 0
White -	-	0 0 6	0 1 0	Tansy, per dozen bunches	-	0 1 0	0 0 0
Plants, or Coleworts -	-	0 2 0	0 2 6	<i>Edible Fungi and Fuci.</i>			
Cauliflowers, per dozen	-	0 1 6	0 4 0	Morels, dry, per pound	-	0 16 0	0 0 0
<i>Legumes.</i>				Truffles, dry, per pound :			
Peas { per sieve -	-	0 1 6	0 3 6	English -	-	0 12 0	0 0 0
per sack -	-	0 5 6	0 9 0	Foreign -	-	0 14 0	0 0 0
Beans, Windsor, per sack	-	0 4 6	0 6 0	<i>Stalks for Pickling, &c.</i>			
Kidneybeans, per $\frac{1}{2}$ sieve	-	0 2 6	0 3 6	Samphire, per bunch	-	0 0 2	0 0 3
Scarlet Beans, per $\frac{1}{2}$ sieve	-	0 2 0	0 3 0	<i>Fruits.</i>			
<i>Tubers and Roots.</i>				Apples, per bushel :			
Potatoes { per ton -	-	3 0 0	4 0 0	Juneating -	-	0 8 0	0 0 0
per cwt. -	-	0 3 0	0 4 0	Hawthornden -	-	0 5 0	0 7 0
per bushel -	-	0 2 0	0 2 3	Peaches, per dozen	-	0 10 0	1 10 0
Turnips, White, per bunch	-	0 0 3	0 0 5	Nectarines, per dozen	-	0 10 0	1 10 0
Carrots, per bunch :				Apricots, per dozen	-	0 2 0	0 5 0
Young -	-	0 0 4	0 0 6	Cherries, per pound :			
Horn -	-	0 0 6	0 0 8	Wall Dukes -	-	0 1 6	0 4 0
<i>The Spinach Tribe.</i>				Circassians -	-	0 1 6	0 5 0
Spinach, per sieve -	-	0 1 0	0 1 6	Bigarreaus -	-	0 0 6	0 1 0
Sorrel, per half sieve -	-	0 0 6	0 0 9	Flemish, per dozen	-	0 4 0	0 6 0
<i>The Onion Tribe.</i>				Gooseberries, per half sieve	-	0 1 6	0 4 0
Onions, when green (Ci-				Currants, per half sieve :			
boules), per bunch -	-	0 0 3	0 0 4	Black -	-	0 4 0	0 5 0
Leeks, per doz. bunches	-	0 2 0	0 2 0	White -	-	0 4 0	0 0 0
Garlic, per pound -	-	0 0 4	0 0 6	Red, for wine -	-	0 3 6	0 4 0
Shallots, per pound -	-	0 0 6	0 0 6	Dessert -	-	0 5 0	0 6 0
<i>Pot and Sweet Herbs.</i>				Raspberries, Red, per gallon	-	0 0 6	0 0 8
Tarragon, per dozen bunches	-	0 4 0	0 6 0	(2 pottles about 3 pints)	-	0 8 0	0 10 0
Fennel, per dozen bunches	-	0 2 0	0 2 0	Walnuts, green, per bushel	-	0 5 0	0 8 0
Thyme, per dozen bunches	-	0 2 0	0 2 6	Pine-apples, per pound	-	0 2 0	0 5 0
Sage, per dozen bunches	-	0 2 0	0 2 0	Grapes, Hot-house, per lb.	-	0 0 9	0 1 0
Mint, per dozen bunches	-	0 1 6	0 2 0	Melons, per pound -	-	0 0 9	0 1 0
Peppermint, per doz. bun.	-	0 2 0	0 3 0	Cucumbers, Frame, per brace	-	0 1 6	0 3 0
Marjoram, per dozen bunches	-	0 2 6	0 3 0	Oranges { per dozen -	-	0 1 6	0 3 0
Savory, green, per dozen bun.	-	0 1 6	0 2 0	per hundred -	-	0 10 0	1 0 0
Basil, green, per doz. bunches	-	0 2 0	0 3 0	Lemons { per dozen -	-	0 0 9	0 2 0
Rosemary, per dozen bunches	-	0 4 0	0 0 0	per hundred -	-	0 6 0	0 14 0
				Sweet Almonds, per pound	-	0 2 3	0 2 6
				Brazil Nuts, per bushel	-	0 16 0	0 0 0
				Barcelona Nuts, per peck	-	0 6 0	0 0 0
				Turkey Nuts, per peck	-	0 5 0	0 0 0

Observations. — From the date of my last report the market has been supplied constantly and freely with all articles in season. The continued fineness of the weather has created a steady demand for all ripe fruits, at what may be considered fair remunerating prices. Cherries have come to hand in good condition, owing to the prevalence of dry weather: the crop about one third less than last season. Currants are not more than an average crop; the prices as yet have been very good, and, as the season for preserving advances, will be better. Gooseberries, of the better dessert varieties, are not plentiful; but, in consequence of the more extended cultivation of them, no deficiency of supply has been experienced. The apples which have as yet been brought to market have been in but inconsiderable quantities: they appear to be considerably blighted, consequently very small in size: the crop is, however, generally good; therefore they may, as the season advances, be expected in large supply. Of pears we have as yet had but few, principally the early Lammas varieties: the crop of these sorts is generally good, but that of the better and later sorts is not so. Some few plums, from the wall, have been brought; the crop not generally good. Of peaches and nectarines we have had a tolerably fair sprinkle; of course, forced: the crop upon the open wall is moderate. But few apricots are to be seen as yet, but the supply expected is considerable. Grapes are abundant, very good, and at present very moderate. Pine-apples are now in good supply; prices, consequently, much more moderate. All other articles much as usual at this season; but the present extremely hot weather will shorten the supply materially if it continues. — *G. C.* July 24. 1835.

THE
GARDENER'S MAGAZINE,
SEPTEMBER, 1835.

ORIGINAL COMMUNICATIONS.

ART. I. *Notes on Gardens and Country Seats, visited, from July 27. to September 16. 1833, during a Tour through Part of Middlesex, Berkshire, Buckinghamshire, Oxfordshire, Wiltshire, Dorsetshire, Hampshire, Sussex, and Kent.* By the CONDUCTOR.

(Continued from p. 338.)

AUG. 28.—Hindon.—The occasional glimpses caught of Fonthill from the high parts of the open downs, surrounded by woods, and without a single human habitation, a fence, or a made road appearing in the landscape, convey to a stranger a correct impression of the character of the place; viz., that of a monastic building in a wild, hilly, and thinly inhabited country, such as we may imagine to have existed three or four centuries ago. On arriving at the miserable little town of Hindon, its appearance serves rather to heighten than to lessen this impression; without trade or manufacture, and with no main road passing through it, it contains only a few houses, the largest of which assume the character of inns; but of these inns the best does not even take in a newspaper. Till the passing of the Reform Bill, Hindon derived its support chiefly from the return of members to parliament; but this resource being gone, the inhabitants are now in the greatest misery. Before Mr. Beckford sold Fonthill, he generously gave 20 acres to the poorest inhabitants for ever as garden ground; observing, as it is said, that they had need of a friend.

Fonthill Abbey; H. Bennett, Esq.—This place, independently of the historical associations connected with the name of Beckford, well deserves to be visited by every person who takes an interest respecting, or is desirous of improving himself in, landscape-gardening; because it is the only one in England, in which he will find the most perfect unity of character preserved throughout the grounds, and that character one belonging to an age long since past in this country, and only now to be found in certain

mountainous regions of Catholic countries on the Continent. The chief object of Mr. Beckford seems to have been to impress this character on all the great leading features of Fonthill, and only to have modern artificial scenes, as occasional episodes. Hence there is not a single gravel walk or made road about the place; nor in the immediate vicinity of the house is there an exotic tree, shrub, or flower, save an apricot and a fig tree, planted against the south side of the grand entrance, as we may suppose by some monk who had brought the seeds of these fruits from some Italian or Swiss monastery.

To receive the full impression which the abbey and the scenery immediately around it are calculated to make, it is necessary to enter by what is called the Stone gate, which is situated at the end of a straight avenue, nearly a mile long, while the front of the abbey is at the opposite end. The elevated region in which the spectator finds himself, and the solemn solitary grandeur of this scene, recall the associations which we have formed of monasteries in alpine countries. The avenue forms the top of a high wooded ridge, which declines on the right and left to deep valleys, the sides of which appear to be covered with natural wood, through which are occasionally seen glimpses of water forming lakes. The trees, for the greater part, are of the spiry-topped kind, which adds to the prevailing expression of alpine scenery. This avenue is naturally of that fine close turf peculiar to elevated regions and chalky soils; and, in Mr. Beckford's time, it was kept smoothly shaven: the work being always performed during the night, in order that the prevailing character of solitariness might not be interrupted during the day. The breadth of the greater part of the avenue is about 100 ft. from tree to tree. There is a depression in it about half way from the gate to the abbey, which adds much to its effect, by giving a natural air, as compared with the broad stately avenues on level ground, which led to ancient baronial mansions; but that which completes this natural effect, and prevents us from thinking for a moment that it is a planted avenue, is, that its sides are bounded by trees and undergrowths of different sorts, not at regular distances, but just as we may suppose they would have been if the avenue had been cut out of a natural wood. The presence of undergrowth among these trees decides this question at once in the eye of the stranger. A planted avenue, with trees of the same sort at regular distances, would have spoiled the character of Fonthill. The depression in the surface of the ground adds greatly to the dignity of the abbey, by elevating its site, while it adds variety to the avenue, and preserves its natural appearance, by varying the direction of its perspective lines. Near the abbey the avenue widens so as to leave a broad area in front; and this area is so admirably broken by scattered native trees

and wild bushes, as to leave no doubt, in the mind of the spectator, of its having been cleared by the founders of the abbey from the native forest. In one angle, formed by two projections of the building, there was a small flower-garden, with a sun-dial and fountain; but exterior to this there was nothing exotic. At the distance of a few yards, there was a range of humble sheds, in which workmen of different kinds were employed, hewing and carving for continuous additions of improvements; and this was also quite in character with the scene, as such was often the case with ancient monastic establishments. A little farther there were sheds for carts, a room for Mr. Beckford's carriage, and stables for ponies. There never were any regular stable offices, as post-horses were always employed when the carriage was made use of. The ponies were used, not only by Mr. Beckford, but by his principal servants and attendants. It may be proper here to state for the information of those who are unacquainted with the history of Mr. Beckford and of Fonthill, that, while these improvements were going on, from 1800 to 1820, Mr. Beckford resided almost constantly on the spot, saw scarcely any company, and seldom went from home.

The appearance of the abbey character being complete, in the general expression, the next point to be studied is the extent and the manner in which Mr. Beckford introduced modern improvements in the grounds: this was exceedingly simple. He confined himself entirely to the introduction of exotic trees and shrubs in secluded places only; and these he disposed in what may be called by-scenes in the woods, in such a manner as that a person who knew nothing of trees could never suspect that they were not natives. There was an American ground in the place, consisting of many of the trees and shrubs of that country, disposed in groups and thickets, as if they had sprung up naturally, with glades of turf kept smoothly mown to admit of walking through among them, and examining their separate beauties. There was a rose-ground, a thornery, and a pinetum treated in the same manner; but, along the numerous walks and drives, the common trees and shrubs of the country were those principally introduced. The next point of study is the manner of conducting the walks and drives. There was, first, from the end of the grand avenue, a broad carriage drive of several miles in length, which made a circuit of the whole place, and displayed the finest views of the abbey and the surrounding country. The greater part of this country is sufficiently naked to keep up the idea of a past age; and the tower at Stourhead, and the woods of Wardour Castle, are sufficiently distinct not to counteract this impression. Within this outer drive there is a park wall that encloses nearly 600 acres, the greater part of which is covered with wood, but with innumerable grassy glades, and some small

lakes. Through this scenery, subordinate drives have been formed, to the extent, as it is said in the *Guide-Book*, of 27 miles. Two small garden episodes may be mentioned: one an herb garden, containing such plants as we may suppose the monks might have cultivated to use in medicine; and the other a garden (which, when we saw it in 1807, had a small hot-house in it, not much bigger than a cucumber frame) for a favourite dwarf. The kitchen-garden was in the outer park, about a mile and a half from the abbey, and was only seen from one part of the grand drive. There remains only one point which we think particularly worthy of study; viz., the very natural manner in which masses of trees of one kind are introduced into the woods. Even in summer, when the difference in the foliage of trees consists merely in shades of green, the good effect of this disposition is obvious. The deep dark foliage of the Scotch pine, and the green of the oak, form the conspicuous masses around the abbey, contrasted by the light tints and graceful forms of a few larches and birches, and with hazel, holly, thorn, and furze as undergrowth. On some of the very steep sides of hills, the Scotch pine and larch are almost the only trees, with birches and alders in the bottoms. The silver fir prevails in some places, and attains a noble size, and the beech is also prevalent in others in very large masses. All this is done on so large a scale, and in such a free and natural manner, as never once to excite the idea of art or formality.

We have spoken thus far of Fonthill as it was, or as it may be supposed to have been, during its occupation by Mr. Beckford; and we have done so partly from our recollections of what it was when we first saw it, in 1807, through the kindness of Mr. Milne, the gardener at that time, and partly from its present state; but the reader will recollect that the greater part of the abbey is now in ruins, and all the interesting parts of the grounds (unless we except the grand avenue and drive, and the American grounds) are in such a state of neglect, as hardly to be recognised for what they were in 1807. To preserve the abbey from falling was impossible, from the nature of its construction; but it is deeply to be regretted that the grounds have fallen into hands which, from some cause or other, could suffer the ruin to extend to them. The expense would have been very trifling of thinning out the native trees and shrubs in those places where they crowded upon the exotics in such a manner as to injure many of them, and to destroy a still greater number. In addition to this expense, there would have been little more than that of mowing the walks and drives; for the thinning and pruning of the plantations generally, we may reasonably suppose would pay itself. It is a fact worthy of notice, that scarcely any place of the same extent was ever formed that could be kept up

at so little expense as Fonthill. The saving by having no gravel walks is very great; and, we are persuaded, the expense of mowing grass and sweeping up leaves might be greatly lessened, by the use of such machines for this purpose as might be dragged by horses. At all events, by letting all the mowing and sweeping up of the leaves, by the year, to one man or party of men, the cost would be nothing to what it generally is on gentlemen's grounds where these operations are performed by labourers of all work by the day. From what we have seen of the rides or drives at Fonthill, Stourhead, Bryanstone House, and Wardour Castle, we are persuaded that there are many situations on dry soils, in which gravel walks, not only in pleasure-grounds, but even in kitchen-gardens, might be dispensed with altogether, as in former times. We should then be saved from the harsh lines and sunk ditch-like excavations, bottomed with loose sand or coarse gravel, which now disfigure so many pleasure-grounds; not from their own nature, but because they are so very seldom properly formed, and kept in complete repair.

We spent the greater part of two days in looking over this place, even to the cottages and cottage-gardens in the village; and, having met with some of the old men who had worked on the grounds during the whole of Mr. Beckford's time, we indulged ourselves in asking questions, and procured much curious information respecting the building of the abbey, the mode of life of Mr. Beckford while he resided in it, the falling down of the tower in Mr. Farquhar's time, and the general effect of Mr. Beckford's immense expenditure on the surrounding population.

It appears that Mr. Beckford pursued the objects of his wishes, whatever they were, not coolly and considerately like most other men, but with all the enthusiasm of passion. No sooner did he decide upon any point, than he had it carried into immediate execution, whatever might be the cost. After the abbey was commenced, he was so impatient to get it finished, that he kept regular relays of men at work night and day, including Sundays; supplying them liberally with ale and spirits while they were at work, and when any thing was completed, which gave him particular pleasure, adding an extra 5*l.* or 10*l.* to be spent in drink. The first tower, the height of which from the ground was 400 ft., was built of wood, in order to see its effect: this was then taken down, and the same form put up in wood covered with cement. This fell down, and the tower was built a third time, on the same foundation, with brick and stone. The foundation of the tower was originally that of a small summer-house, to which Mr. Beckford was making additions when the idea of the abbey occurred to him; and this idea he was so impatient to realise, that he could not

wait to remove the summer-house, to make a proper foundation for the tower, but carried it up on the walls already standing. The kinds of masonry, brickwork, and carpentry which were used may easily be ascertained from the parts remaining. Nothing can be worse : the walls are carried up in some parts of brick, in others of stone, and in others of studwork, sometimes enclosed in stone or brick casing, but always of the very worst description of workmanship. The mortar seems to have been particularly bad, and never to have united either with the stone or with the brick ; since, even in the most solid parts of the wall which remain, it may be picked out with the fingers in a state of powder. The appearance of the ruins, as they now stand, produces an impression of meanness mixed with grandeur that it is impossible to describe. The greatness of the dimensions of the parts which still exist, and which, from being covered with cement, have the appearance of stone ; and the shattered remains of lath and plaster, studwork, and bricks, and bond timber ; and, above all, the long strings of tarred pack-thread hanging from the nails and other remains of what were once mouldings worked in Roman cement, have a tattered appearance, the very opposite of the grandeur produced by durability of execution. We feel as if we had discovered that what, at a distance, we had supposed to be a marble statue, was, in reality, a mere bundle of rags and straw, whited over to produce effect. To those who are acquainted with the details of building, and especially with the practices of the worst London builders, the exhibition here is most amusing in a scientific point of view ; and one may easily conceive that the work has been chiefly carried on by men in a state of intoxication. The manner in which the tower fell may be mentioned as something remarkable. It had given indications of falling for some time, and the more valuable parts of the windows and other articles had been removed. Mr. Farquhar, however, who then resided in one angle of the building, and who was in a very infirm state of health, could not be brought to believe that there was any danger. He was wheeled out in his chair on the lawn in front, about half an hour before it fell ; and though he saw the cracks, and the deviation of the central tower from the perpendicular, he treated the idea of its coming down as ridiculous. He was carried back to his room, however, and the tower fell almost immediately. From the manner in which it fell, from the lightness of the materials of which it was constructed, and partly also from a number of workmen having been for some days making a noise in taking down articles, which it was supposed by Mr. Farquhar's nephew the tower would injure if it fell, neither Mr. Farquhar nor the servants, who were in the kitchen preparing dinner, knew that it had fallen ; though the immense

collection of dust which rose into the atmosphere had assembled almost all the inhabitants of the village, and had given the alarm even as far as Wardour Castle. Only one man (who died in 1833) saw it fall. He is said to have described its manner of falling as very beautiful; it first sank perpendicularly and slowly, and then burst and spread over the roofs of the adjoining wings on every side, but rather more on the south-west than on the others. The cloud of dust which arose was enormous, and such as completely to darken the air for a considerable distance around for several minutes. Such was the concussion in the interior of the building, that one man was forced along a passage, as if he had been in an air-gun, to the distance of 30 ft., among dust so thick as to be felt. Another, on the outside, was in the like manner carried to some distance. Fortunately, no one was seriously injured. With all this, it is almost incredible that neither Mr. Farquhar nor the servants in the kitchen should have heard the tower fall, or known that it had fallen, till they saw through the windows the people of the village who had assembled to see the ruins. Still, we were assured by different persons that this was the fact. We can hardly account for it by the lightness of the materials and the distance of the tower from the kitchen, and the room inhabited by Mr. Farquhar, though this was very considerable, since the dust must surely have penetrated everywhere to such an extent as to excite suspicion. We were informed, however, that the dust occasioned by taking out the windows, &c., was so considerable, that, when Mr. Farquhar's table was covered with dust from the falling of the tower, he thought it arose from the same cause. Mr. Farquhar, it is said, could scarcely be convinced that the tower was down; and when he was so, he said he was glad of it, for that now the house would not be too large for him to live in. Mr. Beckford, when told at Bath, by his servant, that the tower had fallen, merely observed, that it had then made an obeisance to Mr. Farquhar, which it had never done to him.

In confirmation of our idea that Mr. Beckford's enjoyments consisted of a succession of violent impulses, we may mention that, when he wished a new walk to be cut in the woods, or any work of that kind to be done, he used to say nothing about it in the way of preparation, but merely give orders, perhaps late in the afternoon, that it should be cleared out and in a perfect state by the following morning at the time he came out to take his ride. The whole strength of the village was then put in requisition, and employed during the night; and the next day, when Mr. Beckford came to inspect what was done, if he was pleased with it, he used to give a 5*l.* or a 10*l.* note to the men who had been employed to drink, besides, of course, paying their wages, which were always liberal. Even his charities were

performed in the same manner. Suddenly he has been known to order a hundred pairs of blankets to be purchased and given away; or all the firs to be cut out of an extensive plantation, and all the poor who chose to take them away to be permitted to do so, provided it were done in one night. He has also been known suddenly to order all the waggons and carts that could be procured to be sent off for coal to be distributed among the poor. Mr. Beckford seldom rode out beyond his gates, but when he did he was generally asked for charity by the poor people. Sometimes he used to throw a 1*l*. note or a guinea to them, and sometimes he used to turn round and give the suppliants a severe horsewhipping. When the last was the case, soon after he had ridden away, he generally sent back a guinea or two to the party who had been beaten. In his mode of life Mr. Beckford had many singularities; though he never had any society, yet he had his table covered every day in the most splendid style. He has been known to give orders for a dinner for twelve persons, and to sit down alone to it attended by twelve servants in full dress, eat of one dish, and send all the rest away. There were no bells in the house, with the exception, we believe, of one room, occupied occasionally by his daughter, the Duchess of Hamilton. The servants used to wait by turns in the ante-rooms to the rooms which Mr. Beckford might occupy at the time. The rooms in which he lived in general were exceedingly small, and even low in the ceiling. In short, according to our ideas of a well-proportioned room, there never was one in the building. The finest were cubes of 22 ft. on the side.

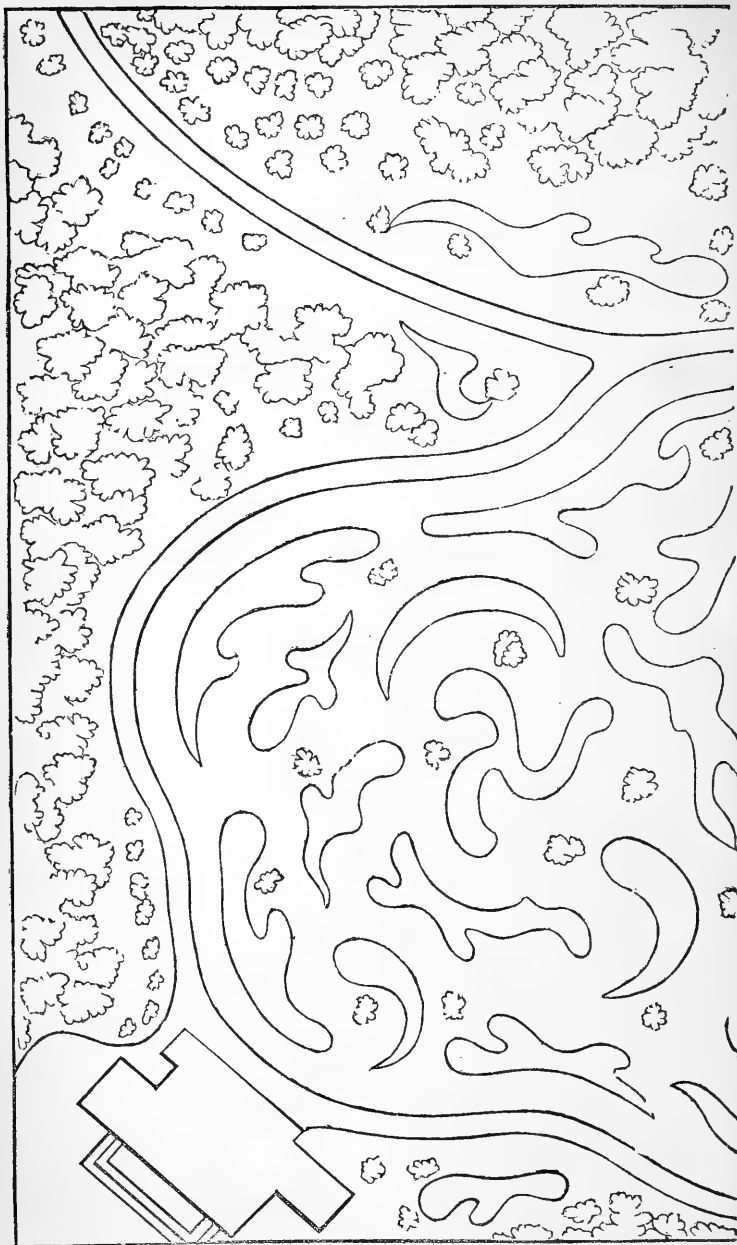
One of the last things which Mr. Beckford did, after having sold Fonthill, and ordered horses to be put to his carriage to leave the place for ever, was to mount his pony, and ride round with his gardener, to give directions for various alterations and improvements which he wished to have executed. On returning to the house, his carriage being ready, he stepped into it, and has never visited Fonthill since. Though Mr. Beckford spent immense sums of money at Fonthill (we were informed, on what we consider good authority, that the place in all cost him 1,600,000*l*.), it does not appear that he has at all elevated the character of the labouring classes in the neighbourhood; on the contrary, we were informed by Mr. Joy, the manager for the present proprietor, that the effect was directly the reverse. The men, in Mr. Beckford's time, were sunk past recovery in habits of drunkenness; and the consequence is, that there are now only two or three of the village labourers alive who were then employed. The labourers, however, generally, in this part of the country, are deeply degraded by the system of making up their wages from the poor's rates; so much so, indeed, that many of the married men drink every shilling that

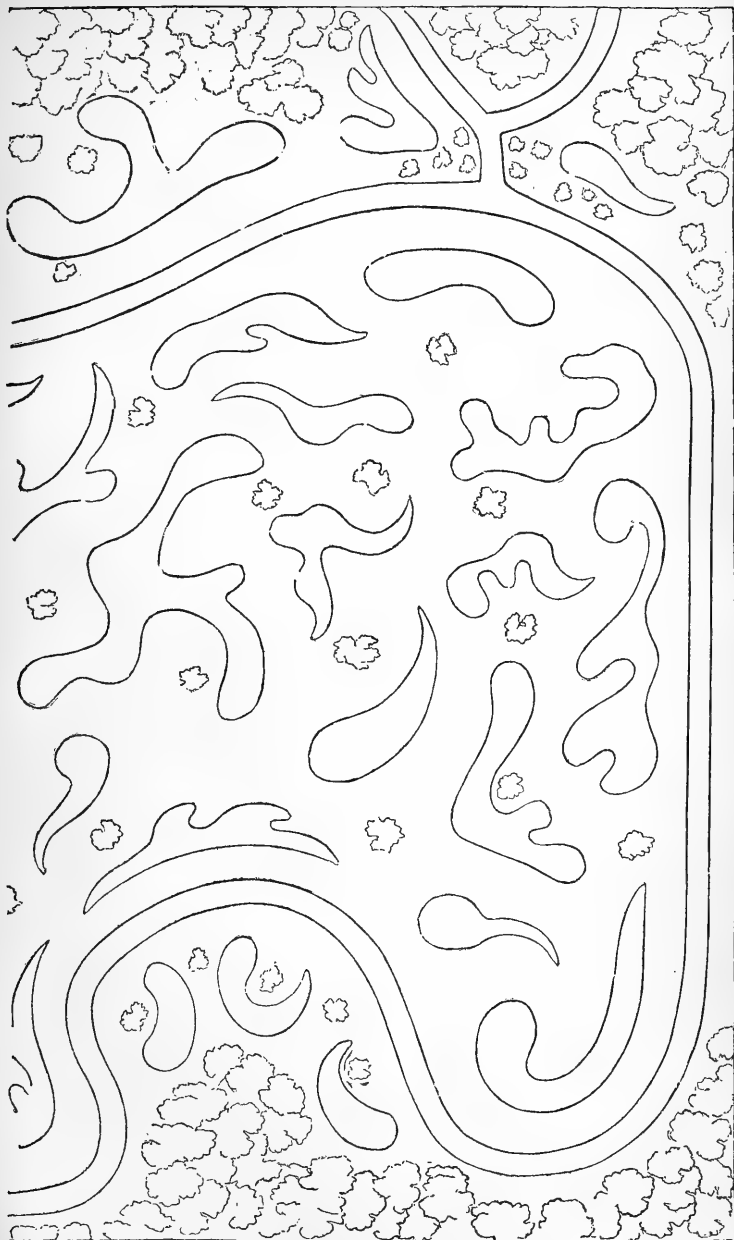
they earn, and leave their wives and children to be supported entirely by the parish; declaring, what, indeed, appears to be their belief, that there is a law obliging the parish to provide for their families, and that they are only bound to take care of themselves.

These are but a few of the numerous tales which were told us by different persons about Fonthill; and it must be recollected that we do not vouch for the truth of any of them, though we think the whole of them are very likely to be true. We admire in Mr. Beckford his vivid imagination and cultivated mind, and that good taste in landscape-gardening which produced the perfect unity of character which pervades the grounds at Fonthill. We also give him full credit for his good sense in having quitted the place when he could no longer afford to keep it up, and the honourable principle he showed in never getting into debt, but paying liberal prices and ready money to the last. We must, however, enter our protest against the recklessness with which he employed his wealth to gratify his wishes, without regard to its demoralising effects on the labouring population of his neighbourhood, effects so serious that it will take a generation to remove them. Far happier will it always be for a country gentleman to cultivate feelings of kindness and sympathy for all those that are about him, and to encourage similar feelings in them towards him, than merely to lavish money upon them. Still, it is as impossible not to admire Mr. Beckford, as it is not to admire Lord Byron, from the native grandeur of his mind, its superior cultivation, and the high aristocratic feeling which he possessed, unmixed with the slightest shade of meanness. His faults and eccentricities appear to have been chiefly caused by an ardent temperament, stimulated by the early possession of almost unbounded wealth, and unchecked by the restraints of reason, prudence, and human sympathy.

ART. II. *A Series of Designs for laying out and planting Flower-Gardens, with Remarks on each by the CONDUCTOR.* Design 4., by A YOUNG GARDENER.

FIRST, as to the "beauties" of the plan of a garden in Vol. VII. fig. 130., repeated in the present volume, in p. 238. and 239., I think they consist in the outlines of the plantations, which appear well calculated to add to the apparent breadth of the interior ground. The gravel walks, too, harmonise with these outlines; and the sweeps are easy and graceful, with the exception of the punchbowl-like form of a diverging branch, near the far corner fronting the house.





Secondly, as to the "defects," the solitary trees, particularly those near the middle of the ground, have too much the appearance of dotting; that is, they do not group well together from every point of view: the beds seem to have little connexion with one another, or with any of the judicious outlines of the plot. Some of them, I think, occupy too much breadth; the group to the left of the house appears to me too stiff and formal, and the turf too narrow between the straight-sided beds. The circle and ovals I think too formal; nor do I think that any trees should stand in any of the beds, as, besides the injury produced by their roots and shade to the shrubs and plants which ought to fill such beds, it would be impossible to make such humble plants as shrubs and flowers harmonise, or form a whole, with the branches of a lofty tree.

As such appear to me the defects of the plan in p. 238, 239., I have endeavoured to avoid them in the plan (*fig. 65.*) which I herewith transmit for your criticism.

Perthshire, April 4. 1832.

THE remarks of A Young Gardener show that he has thought on the subject of laying out grounds; and, if he has continued to do so since he sent us this plan, which was in April, 1832, we have no doubt that by this time he will be as well able to point out the faults of his own design as we are.

Before criticising any work whatever, the critic ought to make himself, as far as he can from the work itself, acquainted with the intentions of its author. It is evident that A Young Gardener intended to arrange the central area of *fig. 65.* as a flower-garden; and hence he was entitled, if he chose, to cover it over with flower-beds. Now, this may be done in various ways, each consistent with itself. First, it may be covered over with regular figures, say circles, ovals, &c., at regular distances; secondly, it may be covered with regular figures at irregular distances, that is, grouped; thirdly, it may be covered with irregular figures at irregular distances; fourthly, with irregular figures at regular distances; and, lastly, it may be covered with symmetrical figures, or arranged as one symmetrical figure. It could not, however, be covered with a mixture of two or more, or all of these descriptions of figures, and preserve unity of expression, or the idea of a perfect whole.

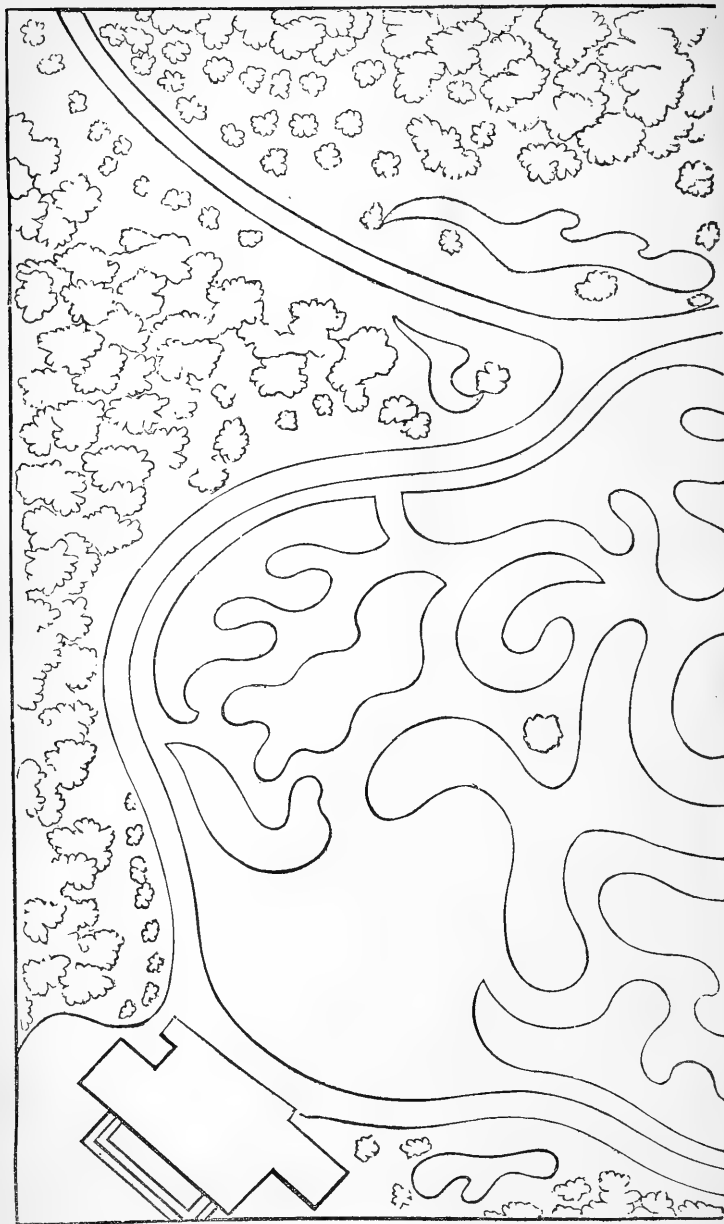
Our Young Gardener has attempted to cover the area with irregular figures at, as near as practicable, regular distances. The pains he has taken to do this are evidently considerable; and, if the beds in *fig. 65.* were sufficiently large to admit of their being planted with shrubs instead of flowers, the whole area of the garden would be one intricate maze of beauty.

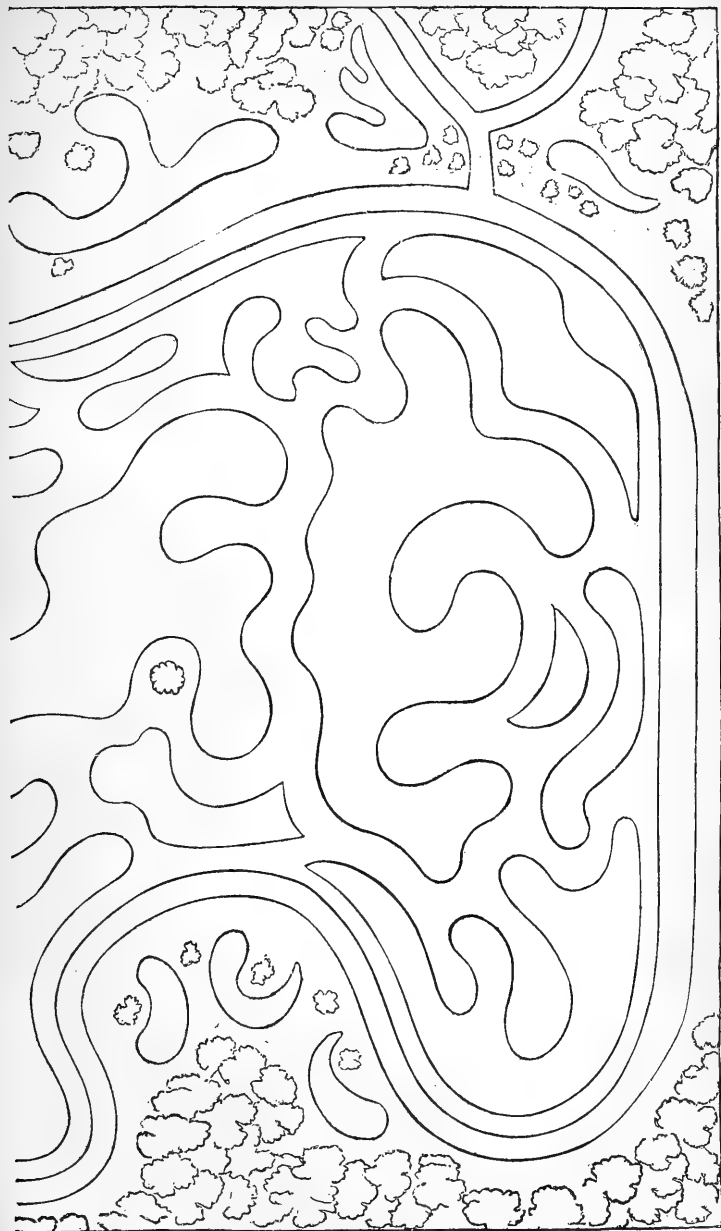
Planted with flowers, however, the entire shape of every bed would be seen at once; and then the question which would arise in the mind of the spectator would be, Why were such anomalous forms adopted for these beds, and why are some of them so very grotesque? Our Young Gardener will perhaps answer, that he varied the beds as much as he could, in order to produce as much variety as possible; or he might say that he preferred having a grotesque character throughout. He might also say that he intended many of the beds to be filled with low flowering shrubs, such as azaleas, rhododendrons, &c., and this to be done in such a way as to break the area into different scenes, and prevent the whole of it from being seen at once from any one point of view. In either of these cases we should say that the Young Gardener has attained the end that he had in view, and so far, therefore, he is entitled to approbation.

The next point that we shall consider is, the taste of the Young Gardener in selecting either of these ends; and here we feel inclined to differ from him. The beds, though they exhibit a similarity of character throughout, do not unite in forming a whole, because a whole must be composed of principal and secondary parts, and these beds are all pretty nearly of the same size. On looking at the plan, there appears such a sameness in form and character, and such seeming equidistance in the position of the beds, that the actual result is a kind of monotony.

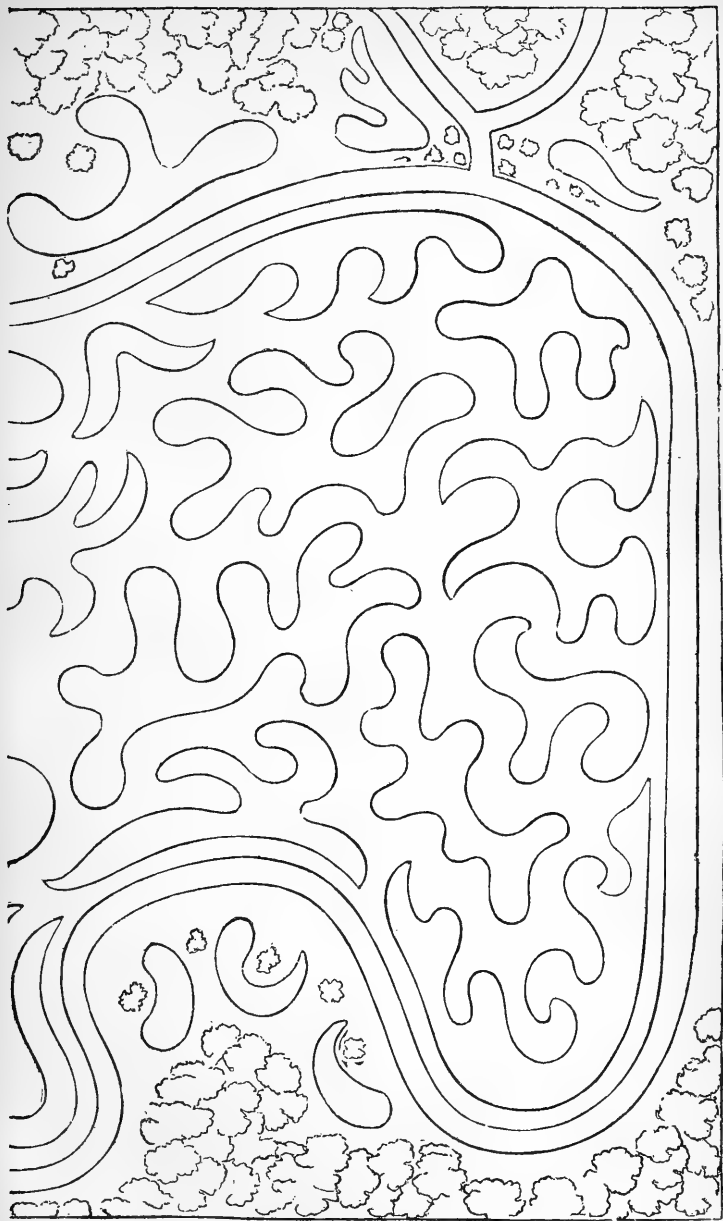
There are two ways of avoiding this monotony when a space is to be covered with irregular figures at regular distances: the first is, to have all the figures of the same character of form, but to have them much larger in one place than in another, as in *fig. 66.*; and the second is, to have all the beds or figures of the same character as to size, but to have one kind of figure prevailing in one place, and another in another place, as in *fig. 67.* It will be allowed, we think, that there is a greater expression of order in the two last figures than in *fig. 65.*, and that either of them forms a better whole than it does.

It must always be recollected that the beds are but the means, and that the flowers or shrubs which grow in them are the end. Whatever, therefore, seems to exalt the means above the end, must be in bad taste; whenever the forms of the beds of a flower-garden make a stronger impression on the spectator than the flowers which are growing in them, whether the forms are elegant in themselves or otherwise, the spectator may rely on it that there is something wrong either in his taste, or in the taste or in the culture of the flower-garden. Of course we are not speaking of a flower-garden in winter, when there are no flowers or herbaceous plants to attract attention from the form of the beds; nor of those parterres of embroidery, as they are called,









which are formed of lines and scrolls of box, and in which the figures formed by the lines of box are every thing, and the plants, when any are planted in them, are frequently more a deformity than a beauty. We speak only of parterres for the display of fine herbaceous flowers; and for this purpose, of all the plans which we have given to the reader in this volume, hitherto, we decidedly prefer fig. 51. p. 357.

We entirely agree with the Young Gardener, that there ought to be no trees in such a flower-garden as he has designed, and not even a single shrub on the grass. Planting single shrubs among beds of shrubs and flowers is good, where the ultimate intention is to cover the dug clumps, containing the shrubs, with their branches, or to turf the ground over up to these branches; but single shrubs create confusion, and interfere with unity of expression, where a lawn is covered with beds in which nothing but herbaceous flowers are grown. The want of this unity of expression is at present strikingly exemplified in the Zoological Gardens in the Regent's Park, where, in the south-east angle, a portion of lawn, recently added to the gardens, displays, in patches or singly, standard roses, ornamental trees, low shrubs, dahlias, carnations, heartseases, pelargoniums, fuchsias, and many other plants, all counteracting the effect of one another; but each, no doubt, admired separately by those who look only to parts or details, without reference to general results, or their cooperation in forming a whole.

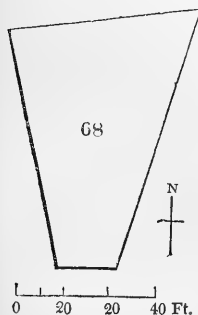
We may here observe, with reference to the circular beds in fig. 51., that if they were to be formed in a loose sandy soil, we would surround every one of them underground with a 4-in. wall of brick, carried up to within a few inches of the surface. In short, we would make each bed a small well or pond of 3 ft. or more in depth; and this would not only preserve the correct circular form at the surface, but it would admit of changing the soil in which the plants were grown at pleasure. This changing of the soil, not merely to the depth of 3 ft., but, in some cases, to the depth of 4 ft., or 5 ft., is essential to growing some plants in the very best manner; and unless they are grown in the very best manner, it is surely hardly worth while to display them in a flower-garden. In a strong clayey soil, on a level surface, bricking or otherwise walling the insides of flower-beds is unnecessary; but in most others we are persuaded that it would be a very great improvement.

Hitherto it has been a very great mistake in landscape-gardeners and amateurs, to seek only for picturesque beauty; or, at all events, to seek for that description of beauty in scenes altogether unfit to produce it, and in which it would be contrary to reason to attempt its production. It is this fancied necessity for having picturesque beauty everywhere which has led to the

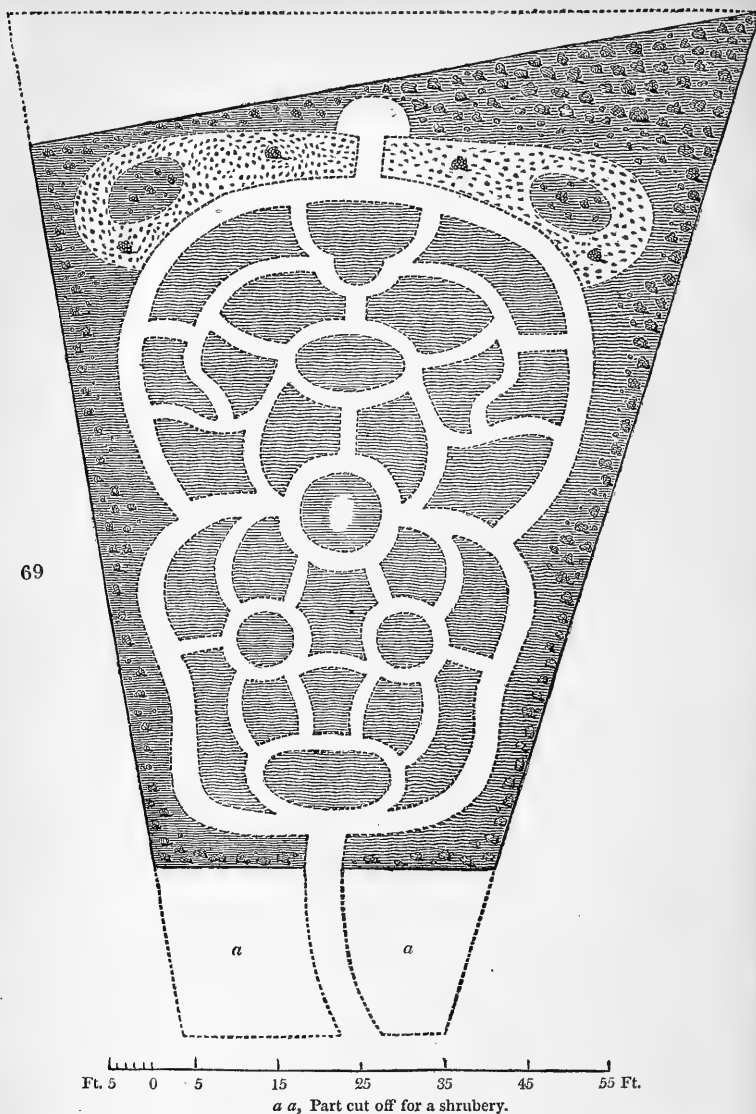
inconsistency of mixing trees and shrubs together in shrubberies, and scattering single trees and single shrubs in flower-gardens, or on lawns among flower-beds. If the parties who adopt this practice will only reflect on what constitutes unity of expression, or, in other words, on what would give most effect to their flowers, and also to their shrubs, we feel confident they would give it up. If even flowering shrubs and flowering herbaceous plants are to be exhibited on the same lawn, they will always have most effect when displayed in separate beds, as shown in fig. 51., grouped with themselves, and with the flower-beds, on the principle exemplified in that figure. But, in cases of this sort, it must always be recollected that the shrubs are to be of the low-growing, flowering kinds, and not such articles as common lilacs, laurels, phillyreas, &c. We refer to what we have said on the subject in p. 412.

ART. III. *Remarks on Competition Designs for Flower-Gardens, with a Design adapted to a particularly shaped Piece of Ground, and containing a Problem for Solution as to Flower-Gardens.* By Mr. T. RUTGER.

I CONCEIVE that offering you designs by way of competition for flower-gardens will prove useful to the admirers of Flora; but, perhaps, a hint upon the subject may not be amiss. It is to be presumed that persons who may offer designs for approval will make choice of the shape and quantity of ground that may suit their own ideas, or, rather, such as may be suitable for the borders, clumps, turf, shrubs, &c., which they may wish to place in it. Now, I do not think there is much difficulty in laying down designs of this description that may please the eye, and also be of use to such as are about to make flower-gardens; but, I think, a better and more useful way would be, to give in your Magazine the size and shape of the ground, together with the points of the compass, place of entrance required, &c., which might easily be done by a small skeleton plan accompanying the request. I conceive by this method more ingenuity would be displayed, and consequently more merit shown, by the person who might succeed in giving the most appropriate design, than in any other; as in some instances the spot made choice of for the purpose may be so shaped as to render it difficult for the designer either to please himself or others.



69

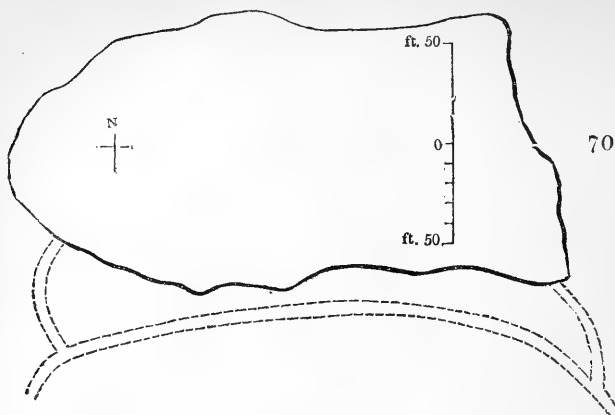


In order to illustrate what I mean, let the skeleton plan be given for a lady's small flower-garden, supposing it to be a trapezium, and the entrance to be in the centre, on the south (see *fig. 68.*). Now, this being not very eligible in point of shape, means must be taken to render it so. The design (*fig. 69.*) will show what is meant; not that it is intended as one not to be excelled, but merely one by way of illustration. The ground

being rather out of proportion in length, a part is cut off and appropriated for a small shrubbery, at the entrance; and, as it runs to an acute angle at the north-east corner, a section of the whole width is cut off for grass plots, shrubbery, and an arbour, thus rendering the remainder more available for laying out according to the taste of the designer. This garden being small, no turf is introduced except at the north end, where it surrounds two small oval clumps; and the same design might be retained if the north end were parallel, or nearly so, to the south end, as indicated by the dotted lines.

Flower-gardens, such as the one here given, are rather small to introduce turf adjoining to or among the beds with advantage; but, when they are sufficiently large, it adds much towards variety and embellishment, particularly when dwarf and choice shrubs are planted thereon. (See fig. 14. p. 205. of the present volume.)

In laying out a mixed, or shrubbery, flower-garden, much may be done in a small space, to give variety and effect, particularly if a small stream of water can be led through it. In this case, close planting is necessary, in order to give as much variety to the walk as possible, by preventing its being seen in long distances: a rustic erection or two placed in the line of the walk, to walk through, and covered with creepers, with a recess in the centre, furnished with a seat and table, may be appropriate for such a garden; and the streamlet, if it can be brought in, flowing over a small cascade, or issuing from some figure, it will be all the better; and then it may be conducted to a pond for gold and silver fish, or for an aquarium; and at some distance, towards the extreme end, it may be widened, to afford an apparent necessity for a bridge, which may be thrown over it with the assistance of the roots of large trees, on the sides of which creepers may be introduced. A mass of rockwork, in an appropriate situation, will add to the effect, also a few vases, with other embellishments. These, with the walk around properly arranged through the shrubbery, with beds of flowers here and there in the openings placed on its margin, and a few clumps with shrubs in the centre, with a few dotted upon the grass, will make a very engaging retreat, and may be accomplished in the space of a half or three quarters of an acre, which, if of an oblong shape, is all the better. A garden of this description, if placed near the house, in a recluse situation, may be convenient for a lady-gardener, whose inclinations may prompt her to recreations of this kind; and it will prove a constant source of delight and amusement to her, while employed in adding to its embellishments, and inhaling the sweets from the flowers she may choose to appropriate for that purpose.

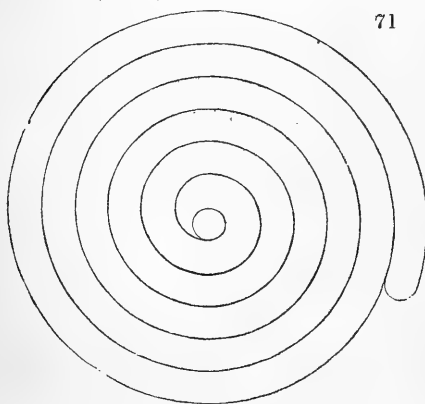


Required to fill up, on an enlarged scale, the outline *fig. 70.* for a shrubbery flower-garden, where there is a stream of water available, to be brought in at the west end. It is also required, that the entrances shall be from the walk which is contiguous to the outline, and marked with a dotted line.

Shortgrove, Essex, 1834.

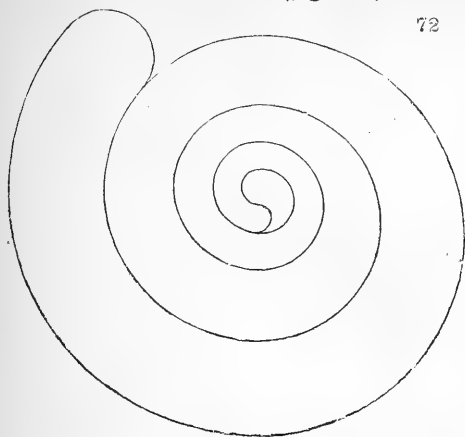
ART. IV. *On a new Mode of forming curved Lines, in laying out Grounds.* By Mr. ALEXANDER FORSYTH.

THE only correct way in which a Spiral Line, or Volute, can be made. (fig. 71.)



Make a circle around the centre of your intended volute, as much in circumference as you intend the breadth of your circuitous border to be: stick this circumferential line full of pegs, and tie one end of a garden line to one of them. Then, taking the other in your hand, go out to the point where you intend the volute to begin; and as you circumambulate, holding the line strained tight, you will delineate on the ground the figure required; viz. *fig. 71.*

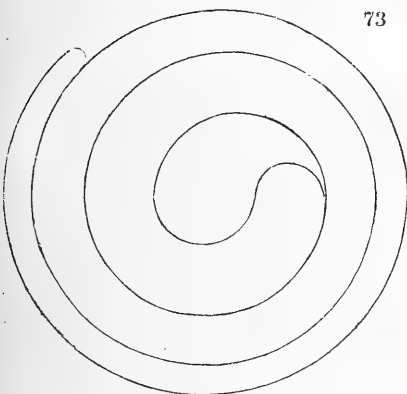
To form a *Volute* where the *Border* is narrower toward the *Centre*, like the shell of a snail. (fig. 72.)



72

Make a circle as before, and, instead of driving the pegs upright, let them form a cone; or, instead of pegs, use a large flower-pot whelmed, and, if necessary, a smaller one whelmed over it. Measure the radius of your volute, and wind that complement of line round the cone in such a manner as to correspond with the varying breadth of

your intended border, and commence making the figure at the interior, by unwinding the line, and you will have fig. 72.

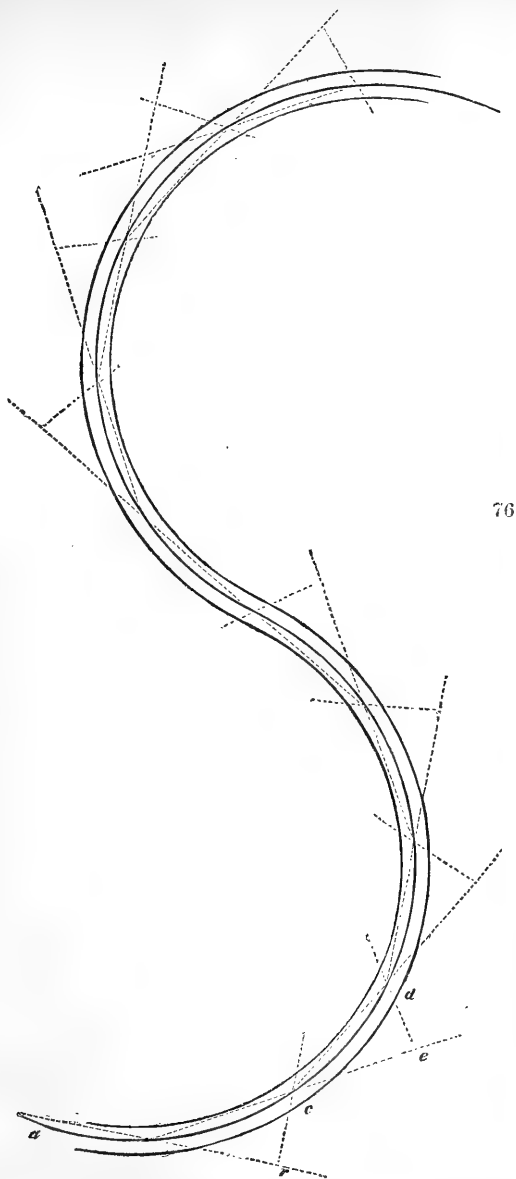


73

To delineate the *Volute* fig. 73.—Wind the line around the cone in the same manner as for fig. 72., only unwind it from the other end.

A new method of striking out Circles, and other Curvilineal Figures by means of a Theodolite, or with a common Cross Staff and Measuring Chain, applicable alike to circumscribe the area of one inch, and the demesne of several square miles.

With a Cross-Staff (fig. 75.) and Chain. — Suppose *a*, in fig. 74., a point in the intended arc: stick a peg there, and, with the handle of the cross staff stuck through the handle of the chain, set up the staff in *b* (another point in the intended arc) with the base pointing to *a*. Then measure the distance from *b* to *a* (say 50 links); and let an assistant be directed to put in a peg in *r*, forming a right angle with the line *b a*, at a certain ratio from *b* (say 5 links). Raise the cross staff (putting a peg in its place), and plant it at *c*, 50 links from *b*, and forming the line *c r a*; set off 5 links on the line *c r* at right angles with the line *c b*, and so on, till you end where you began.



cessary to reduce the humps and hollows to a plane, and in this he succeeded beautifully; but very different indeed was the appearance, when finished, of the lineal direction. Viewed from an eminence opposite, it resembled the devious track of a poacher

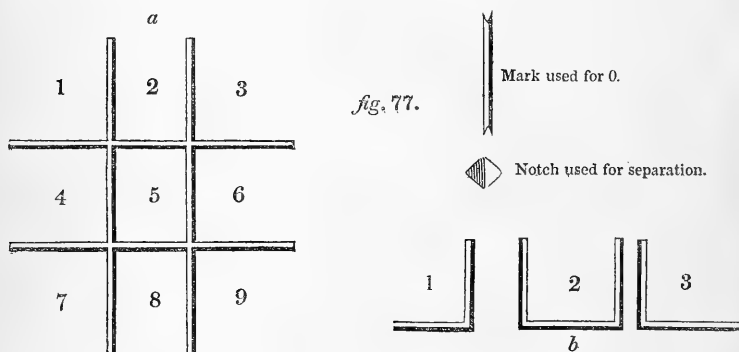
in the snow. The surface of the park being very steep and undulated, very few of the pins could be seen at once, which rendered the eye, unassisted by measurement, a very unsafe guide.

The above system being perfectly original, and not to be found in any book of geometry that I have been able to consult, I hesitate not to say, that they are valuable to the delineator of sweeps and circles; and should any of the readers of this paper say that these articles are not original, I shall be very much obliged if they will favour me with the name of the work where they are to be found.

Oakhill Gardens, near Barnet, July 18. 1835.

ART. V. *Notice of a new Mode of numbering Plants, the Invention of Mr. William Morris.* Communicated by Mr. MORRIS.

I SEND you my mode of naming and numbering plants, which, from the form (exemplified in *fig. 77. a*) being so easily retained in the memory, I consider preferable to Seton's.



In numbering on this plan, for 1, 2, 3, I cut as in *fig. 77. b*. As an example, take species 341, variety 2. (*fig. 78.*)

78



This plan has not been communicated to any person besides yourself.

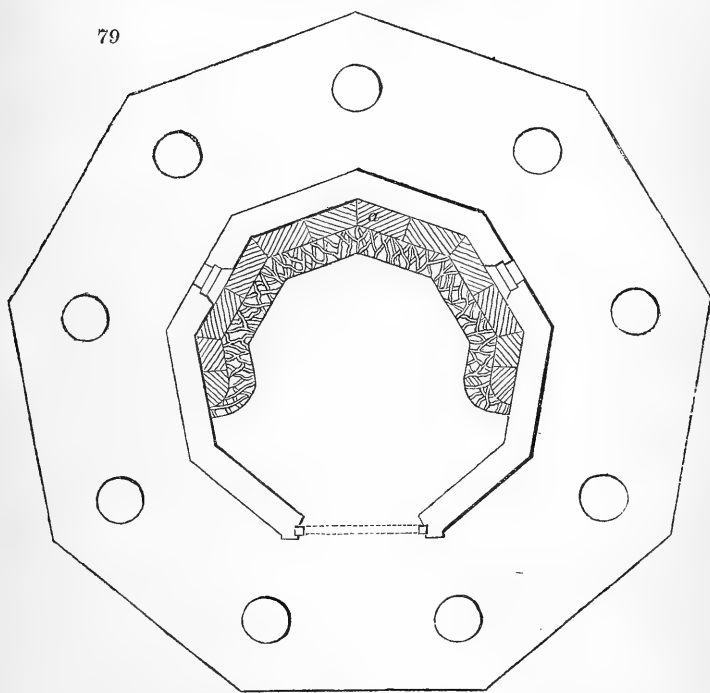
Henstridge, Somersetshire, May 7. 1835

ART. VI. *Ground Plan, Elevation, and Description of a Moss House erected at Murtle, in Aberdeenshire.* By Mr. JAMES ALEXANDER, Gardener at Maeslough Castle, South Wales.

I HEREWITH send you a description of a moss house in the grounds at Murtle, near Aberdeen. The ground plan has nine equal sides, with a portico all round, supported on nine rustic pillars, each 1 ft. in diameter, with capitals 1 ft. 2 in. square and 4 in. thick; and on which rest four courses of rustic planks, 6 in. thick each, laid horizontally, which connect the whole of the pillars.

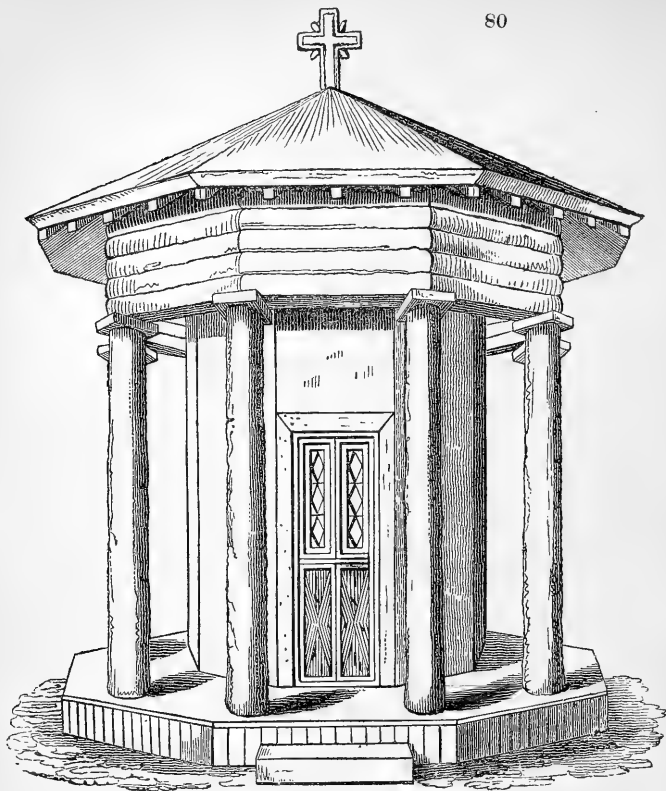
Fig. 79. is the ground plan, shown as it is, raised on a base 1 ft. high, and surrounded by a gravel walk. *a* shows the

79



12 6 0 5 10
ins. ft.

position and form of the seat, which is made of well-seasoned rustic wood. The floor of the cell is laid with broken bottles, with their bottoms upwards, and the hollows filled in with Roman cement and sea shells. The space below the portico is paved in star and diamond forms, with small stones of various colours from the sea beach.



The joists are 4 in. thick, and 5 in. deep, and on them rests the roof, which is slated next the timbers, with a coat of heath 9 in. thick above the slates; this being considered as corresponding better with the rustic work than either slates or tiles. The wall of the cell is 9 in. thick, and consists of nine upright posts, on the inside of which are nailed horizontally, the upper edge standing out about an inch from the posts, strips of wood three fourths of an inch square, and one inch apart. In the interstice at the upper edge, and in those between the strips, the moss is rammed in with a wedge-shaped piece of wood. The ceiling is done in the same manner, and has the form of a star in the centre, pointing towards each corner: this star is made of *Cenomyce rangiferina*. The cornice is made of the cones of the *Pinus sylvestris* var. *rùbra*, three rows being laid horizontally, and one row set on end, and projecting a little outward. The door is made of rustic work, and has a Gothic window in it, similar to the two windows in the wall, filled in with stained glass.

Fig. 80. is an elevation of the moss house showing the door, &c. The bark was taken off all the rustic wood before it was used (the seat excepted), and the wood had, when newly finished, rather a glaring appearance; but, in the course of one or two years, it got a grayish tint, which will probably be lasting; whereas, if it had been used with the bark on, in that time it would have been falling off, and the whole would have had a rugged and dilapidated aspect.

Maeslaugh Castle, South Wales, Feb. 4. 1835.

ART. VII. *On the Management of Grass Lawns.* By Mr. T. RUTGER.

THE beauty of our English lawns is proverbial, as they far exceed in the richness and perpetuity of their verdure those on the Continent: this is to be attributed chiefly to our climate, assisted perhaps, in many instances, by the richness and depth of the soil. The beauty and perfection of a lawn consists in the evenness of its surface, whether on the level or slope; the absence of worm casts, and of every kind of obnoxious plants, such as the daisy, plantain, &c., and also of the coarse grasses; such as the *Hólcus lanátus*, *Dáctylis glomeràta*, and others that might be named, with the exclusion likewise of moss. A perpetual verdure is also indispensable to the completion of the whole. To preserve a lawn in high keeping, considerable labour and attention are necessary, particularly during the summer months; the process of which, although simple, if it is not followed up, will soon discover neglect. The common routine of rolling and mowing once in a week or ten days may be sufficiently understood; and this alone, in a tolerably moist season, may be sufficient to effect a neat appearance; but, in seasons of drought, frequent waterings should also be resorted to, and particularly upon thin and gravelly soils; and this should be commenced on the very first appearance of any change in the colour of the grass. Were it possible to prognosticate the exact time when a season of drought should commence, I should advise the scythe to be laid by in time, so that the grass might nearly want cutting when the dry weather began, as by this means the ground would be somewhat shaded, and the watering have a greater effect towards preserving the verdure. It may also be observed, that, during the dry weather, the daisy rake, if frequently used, will be in many cases sufficient to remove every thing that may appear unpleasant to the eye.

But it must not be considered that merely rolling, mowing, sweeping, raking, and watering are all that is necessary to preserve the beauty of a lawn; it is necessary that the soil should also be kept in good condition, or, as the term expresses, and

which is often used, “in good heart;” otherwise it will, by perpetual cutting, soon become impoverished, and a mossy surface will shortly make its appearance. I am aware that there are some who prefer this; but I conceive the perfection of a lawn does not consist in its being composed of a bed of moss, however pleasant it may be to walk upon; the beautiful verdure of grass is far more attractive, and, when in good order, is in far better keeping with the walks and shrubbery adjoining: but, to secure this, manure is occasionally necessary; and, the richer it is, the less quantity of it, when applied, will be wanted, and the finer it is in its component parts the better, so that by a few strokes with the broom it may disappear. I should recommend this operation to take place late in the autumn, when the scythe has been laid by, and prior to it that the garden rake be used in scratching over the surface, so as to admit the manure the more readily to incorporate itself with the soil. In about a fortnight after the manure has been applied, the roller may be employed to restore all to its former level. It may not be amiss to observe, that the manure used should be as free from the seeds of weeds as possible. I know of no manure more efficacious, in proportion to the quantity used, nor that will impart a greater degree of energy to the soil, than soot, which, being perfectly free from seeds of any kind, may be applied with great advantage when used with caution, and it will produce a most beautiful verdure. Soot is also an antidote against the worms, and will in a great measure supersede the necessity of using lime water.

In laying down a lawn either by turfing or sowing, the directions given in your *Encyc. of Gardening* are quite sufficient; I therefore will only add, that, in cases of a gravelly surface, and where excavation is necessary, it should be done in such a manner as to give an equal depth of soil over the whole, and that the soil should be of an equal quality, as otherwise the grass will be of unequal growth, which will render it impossible to preserve in it that uniformity of appearance which is necessary to render it pleasing to the eye.

The hints here given are intended rather for the suburban and other villas, than for places upon a large scale, where the lawns are so extensive, as to render it impracticable to carry them into effect, unless at an expense beyond what most persons, however rich, would be inclined to go to in this branch of ornamental gardening.

Portland Place, June, 1835.

[THE finer lawns on the Continent are watered on the surface in the evenings of the hotter summer months. In our next Number a mode of underground irrigation suitable for gardens, and especially for arboretums, will be suggested, which may probably also answer for lawns.]

ART. VIII. *Short Communication.*

THE Simple Field-Style (fig. 81.) is in use in the fences which separate fields in some parts of Worcestershire. It is merely two posts, somewhat curved, either placed close together at bottom, and about a foot apart at top; or placed six or eight inches apart at bottom, with the cross piece *b* at about a foot from the ground. In either case the expense is trifling. It is not likely to go out of repair; and, while it is most readily passed by females, and even children, no cattle, not even sheep and lambs, can pass through it. [To prevent the possibility of sheep or cattle of any kind passing through such an opening in a fence, it is only farther necessary to drive in two posts, each about a foot distance from the centre of the stile. This, however, is never found necessary in Worcestershire, though it might in counties where Welsh or Highland sheep are kept in enclosed pastures.]

— *Anon. Worcestershire, July 1834.*

ART. IX. *Floricultural and Botanical Notices of newly introduced Plants, and of Plants of Interest previously in our Gardens, supplementary to the latest Editions of the "Encyclopædia of Plants," and of the "Hortus Britannicus."*

Curtis's Botanical Magazine; in monthly numbers, each containing eight plates; 3s. 6d. coloured, 3s. plain. Edited by Dr. Hooker, King's Professor of Botany in the University of Glasgow.

Edwards's Botanical Register; in monthly numbers, each containing eight plates; 4s. coloured, 3s. plain. Edited by Dr. Lindley, Professor of Botany in the London University.

Sweet's British Flower-Garden; in monthly numbers, each containing four plates; 3s. coloured, 2s. 3d. plain. Edited by David Don, Esq., Librarian to the Linnæan Society.

FACTS which have a general Relation to Floriculture. — Dr. Hooker has discontinued his *Journal of Botany* so far as to its name; but a continuation of the supply of the kind of information which has been published in the *Journal of Botany* is to be made in a work to be entitled, *Companion to the Botanical Magazine*. It was announced upon the cover of the *Bot. Mag.*, the number for August, that the first number of the *Companion* was published on that day. Each number is to include two sheets of closely printed matter, accompanied by two plates partially coloured: its price 1s. 6d.; stitched with the magazine, 1s.

EMBRYO DICOTYLEDONOUS: COROLLA POLYPETALOUS, OR NOT PRESENT.

III. *Ranunculaceæ*, § *spuriæ*.

1596. *PÆONIA* 14094 *Moutan* [Sw. fl. gar. 2. s. 297
var. *punicea* D. Don red-corollaed ❸ spl 3? my Carmine English seedling 1831? C p.1

“Communicated in May last by Sir Abraham Hume, Bart., from his collection at Wormleybury. It is most probably a seedling from Anneslei [*P. Moutan* var. *Anneslèi*], as it agrees with that variety in habit, and in the uniform rich colour of its petals. The flowers, however, are larger than in that variety, with the petals more numerous, more deeply cut, and of the colour of carmine.” (*The Brit. Flower-Garden*, August.)

XXII. *Berberideæ*.

In the *Penny Cyclopædia*, No. 237., the order *Berberideæ* is treated of; and nineteen species of *Berberis* are described, each in some detail, and incidental information on species additional in number to these is supplied. Every one who desires information on the berberries should acquire this number of the *Penny Cyclopædia*.

LX. *Proteaceæ*.

317. *HAKEA*. [“Sw. Fl. Austral., t. 45. It comes nearest to Mr. Brown’s *H. repanda*,” Dr. Graham.
†2679. *ferruginea* Cunn. rusty-barked ❸ or 6 my.jl Pa Y N. Holl. 1825 C s.p Bot. mag. 3424

Rather handsome; free-growing; upright; bark brown, that of the twigs covered with brown tomentum. Branches long, slender, drooping. Leaves ovate-oblong, 2 in. to 3 in. long, 8 to 13 lines broad. Fascicles of flowers axillary, sessile. . . . It flowers very freely in the green-house, and probably will thrive upon a south wall where we have lately planted it. (*Dr. Graham*, Edinburgh Botanic Garden, in *Bot. Mag.* August.)

LXXIII. *Rosaceæ*.

1528. *POTENTILLA*.

13637a. *memoralis-formosa* a hybrid between *Tormentilla réptans* L. (*Potentilla nemoralis* N.), the male parent, and *Potentilla formosa*, the female parent ✱ Δ or prostrate my.n O spot
Irish hybrid 1829 D rockwork

Sir, In reference to R. Tongue’s hybrid tormentilla, described in p. 373., I beg to hand you the enclosed specimens of a hybrid tormentilla, which I succeeded in raising here in 1829, which seems to be nearly, if not the very same as R. Tongue’s. In 1827 I planted, with a view to hybridising, a patch of the *Potentilla ròsea* [? *formosa*] and *Tormentilla réptans* [*Potentilla nemoralis* *Nestler*] in one place; in 1828 they both flowered freely, and the potentilla ripened seeds, which were sowed in 1829, and produced about 150 plants; most of these flowered in 1830, and proved themselves to be the same as the *Potentilla ròsea* [? *formosa*], except two plants, the one closely resembling the *Potentilla atrosanguinea*, and the other the plant I have sent you the specimen of. It resembles more the tormentilla than its female parent in its habits, having slender prostrate stems

of about 15 in. in length, but does not root at the joints, although encouraged by layering, but dies back, like its female parent, in winter. However, I have succeeded, this season, in obtaining four fine plants of it, by dividing it at the rootstock, which are all now in fine bloom. It is a great flowerer from May until November, and will be a handsome addition to the flora of rock-work, for which it seems peculiarly eligible. I may mention, for the sake of those who advocate the existence of the condition of sterility in hybrids, that it has hitherto continued barren, although it has now been flowering these six years. The description given in p. 373. of Mr. Tongue's hybrid answers so nearly to the kind I have raised, that one would think that it was the same plant, although it could not by any possibility be so: if it deviate at all from that description, I would say that the colour of the flower of my plant is orange; that it is larger than a sixpenny piece; and that the sepals of the outer series are not so long, nor so broad, as those of the inner one, and are reflexed. — *John Smith. Ballysagartmore, Lismore, Ireland, July 20. 1835.*

[In the specimens sent, for which we thank Mr. Smith, the likeness appears to us to be strong to *P. formosa*, but with the stems, branches, and peduncles much slenderer, and the leaves much smaller; the flowers are large for the habit, and the colour very dissimilar to that of *P. formosa*. Mr. Tongue's hybrid was more similar in habit to *T. réptans*.]

LXXIV. *Pomàceæ*.

1506. CRATÆGUS. [1824 s B G C co Sw. fl. gar. 2. s. 300
†12933 mexicana M. & S. Mexican 4 ♀ ? — ? or 10 su W The table lands of Mexico. 1823 or else

The figure exhibits inflorescence, flowers, leaves, and fruit, and these from a plant which flowered in summer, 1834, and bore ripe fruit in November, 1834, each for the first time, in the garden of Boyton House, Wilts, the residence of A. B. Lambert, Esq., where this plant had been raised from seed received, in 1829, from the native country of the species, "the table lands of Mexico." The plant in the garden at Boyton House is a small bushy tree, 8 ft. to 10 ft. high, spineless, apparently evergreen; the leaves may be stated to resemble those of *Méspilus grandiflora*; flowers disposed in many-flowered corymbs at the tips of branchlets; corolla pure white; anthers pale pink; pome (fruit) of about the size of a medlar of the common smaller kind, globose, slightly tapered at the base, glabrous, when unripe green, when ripe pale yellow with dots of brown; flesh of a disagreeable bitter taste. Mr. D. Don has deemed it a valuable addition to our sorts of hardy shrubs, as it produces an abundance of white blossoms, which are succeeded by fruit of unusual size [it is much larger, even, than the almost cherry-sized

fruit of the *C. coccinea*], and of a pale golden colour. (*Brit. Flow.-Garden*, August.)

When was *C. mexicana* introduced into Britain? 1823, G. Don in Loudon's *H. B.*, p. 201., and in G. Don's *Syst. of Gard. and Bot.*, ii. 601.; 1824, Sweet in his *H. B.*, ed. 2. p. 175.; 1829, D. Don, in the *Brit. Flower-Garden*, t. 300.; for I understand his account to represent Mr. Lambert to be the first introducer of it, and this in 1829. These facts relate to this question: in Lee's nursery are plants of *C. mexicana* for sale, and in the garden of the London Horticultural Society are two plants, there may be more, of it. If the plants in these places have not been derived from Mr. Lambert's plant, *C. mexicana* has been introduced by some person or persons other than Mr. Lambert, and possibly earlier than by him. Mr. H. Laundy has communicated, in *G. M.*, ix. 630., some information upon what he has cited as "the *Cratægus stipulacea*, which was received by Mr. Young of Taunton, from the late Mr. R. Barclay of Bury Hill, under the specific name of *mexicana*." Is the species here implied the *C. mexicana* rather than the *C. stipulacea*? Mr. Laundy's communication is dated Sept. 2. 1833: the *Cratægus* had been received from Bury Hill at some previous time.

The degree of hardiness of *C. mexicana* in Britain. Mr. G. Don has marked it, in Loudon's *H. B.*, p. 201., to require the shelter of a frame: Mr. Sweet had done the same, in his *H. B.*, ed. 2. p. 175.: Mr. D. Don has stated it, in the *Brit. Flow.-Garden*, t. 300., to be quite hardy. In the garden of the London Horticultural Society, one plant is planted in a clump in the arboretum in the open garden; another is trained to the southward face of a tall wall, and materials of shelter are placed during winter over the plant at some feet above it: this plant is much larger and more luxuriant than that; but the difference may be owing to other causes than the shelter. Mr. H. Laundy has noted, in the communication referred to above, on the species of *Cratægus* there implied, be this *mexicana* or not, "nor does it always ripen the extremities of the shoots sufficiently to enable it to resist our winters unhurt."

XCI. *Empetrea*.


2739. *EMPETRUM*. [America 1833? 1830? L.s.p. Bot. reg. 1783
24111a *rubrum* Willd. red-fruited 2. fr. procumbent ... Brown-purple Southern point of South
The sex of the specimen figured is the female. "We have hitherto seen only fertile individuals alive;
but in all probability sterile ones exist somewhere in collections." — *Lindley*.

"Although not striking in its appearance, it forms an interesting addition to the hardy evergreen shrubs of this country. . . . It grows freely in peat among other plants of a similar kind." Mr. Low of the Clapton Nursery has lately introduced it, "under the name of 'the Cranberry of Staten Island.'" It . . . is found all over the southern point of South America, growing with *Pernettia mucronata* [see Vol. X. p. 286.] along the sandy

coast, spreading over the stones, but especially thriving at the back of the low sand hills by which the shore is often skirted. It is, however, by no means confined to this locality; for we [Dr. Lindley] have specimens of it collected at Conception by Macrae. According to Gandichaud, the red berries are pleasant to eat." (*Bot. Reg.*, August.)


EMBRYO DICOTYLEDONOUS: COROLLA MONOPETALOUS.

CLXX. *Ericaceæ*.


1173. *ERICA*.
 †9820. *recurvata* *Bedf.* drooping round-headed  or 2 my Dp. Br WR C GH 1810 C s.p. [Bot. mag. 3427]
 Synonymy: "*Euryloma recurvata* *Don*, *Syst. of Gard. and Bot.*, iii. 817."—*Dr. Hooker*.
 The plant *Dr. Hooker* has illustrated disagrees, he has shown, with some essential characters of *Don's* genus *Euryloma*. Compare the characters of this genus with those cited below on this plant.

The foliage is of a delicate green colour. The leaves at the extremity of the branches form a sort of starry involucre about the dense heads of flowers; each head consists of from 10 to 16 flowers, calyx of four awl-shaped white segments which do not spread. Corolla between ovate and cylindrical, about $\frac{1}{2}$ in. long, white in the tube, deep-brown in the segments: these are erect or rather connivent. Style twice as long as the corolla, bright red in its terminal part. *E. recurvata* "produces its singular blossoms in the heathery of the Glasgow Botanic Garden, in the month of May." (*Bot. Mag.*, August.)

CLXXII. *Vacciniæ*.



1194. *VACCINIUM*.
 10107a *albiflorum* *Hook.* white-corollaed  or ... my W N. America 1833? Lp Bot. mag. 3428
 Allied to *V. corymbosum* *L.* It may possibly be the *V. album* of *Lam.* (not of *Linn.*, for that Sir James Smith has ascertained to be the *Xylosteum ciliatum* *β Ph.*, nor of *Pursh*, which is *Vaccinium stamineum* ["*Andrews's Bot. Rep.*, not of *Linn.*"]; but the description is too vague to allow a conclusion.—*Dr. Hooker*.

Very pretty. It has been received at the Glasgow Botanic Garden, from North America. (*Bot. Mag.*, August.)

- †10122. *cæspitosum* *L.* tufted  or $\frac{1}{2}$ my W Dp Bh About Hudson's Bay, north-west coast of America, west sides of the Rocky Mountains; east side of Rocky Mountains, in nearly the same latitude, 52° north; Lake Winipeg and the Sashatchewan 1823 Lp Bot. mag. 3429

The figure is from living specimens in the Glasgow Botanic Garden. The blossoms of *V. cæspitosum* are numerous, exceedingly delicate and beautiful. Corolla very delicate, white with a tinge of deep blush. Berry globose, glaucous, blue-black. Leaves small, obovate, serrate, glabrous. "In the native specimens the blossoms and berries seem to be quite as numerous as the leaves. On one specimen, scarcely more than 2 in. high, but much spreading, I [Dr. Hooker] have counted upwards of thirty flowers." (*Bot. Mag.*, August.)

CLXXXVI. *Compositæ*.

- LASTHENIA *DeCandolle*, who has not yet published the characters of the genus or the meaning of
glabrata *Lindl.* smooth-surfaced  or $1\frac{1}{2}$? my. in Y California 1834 S co Bot. reg. 1780
californica *Dec.* Californian  or ... Y California 1834? S co Bot. reg. t. 1780 [in the text, the name 19. 2. sp. 2.—]

L. glabrata.—Plant spreading, its whole surface smooth. Leaves opposite, in pairs, their bases clasping the stem in some degree, the longest of those in the figure about 3 in. long, and about

$\frac{1}{2}$ in. broad at the base, whence they are acuminate to the tip: some leaves are entire, some are toothed. Head of flowers environed by a top-shaped (turbinate) involucre of one leaf, not accompanied by bracteas; in its margin many-toothed. Corollas, of all the flowers in the head, yellow. The flowers in the margin of the head have ligulate corollas, which spread and form a border of rays; 13 are shown, to the head; they touch, or even overlap each other at the base, and each is oblong and, at the tip, two-toothed: the width of the head and its surrounding border of rays is shown to be an inch or more: The flowers of the centre are funnel-shaped. Receptacle conical. Fruit (seed) devoid of pappus. "... Introduced by the [London] Horticultural Society in 1834. It flowers in May and June, if sown very early in the spring, or in the previous autumn, and forms a pretty gay mass of yellow in the beds of the flower-garden. It seeds profusely."

L. californica. — This "is also in our gardens." See, in p. 326, 327. 381., mentions of its being exhibited at meetings of the London Horticultural Society. It "is rather less ornamental than the" *glabrata*; its heads of flowers are smaller, and its corollas of a paler yellow; its surface is slightly pubescent; its leaves entire; and the base of the heads of flowers shaped like a boss or umbo. (*Bot. Reg.*, August.)

CCXI. *Scrophulariæ*.

65. CALCEOLARIA, a shrubby kind of, with corolla white.

"A seedling 'shrubby calceolaria, with pure white blossom, has been raised by Mr. Barratt, nurseryman, Wakefield. From the size of the blossoms, their purity of colour, and the profusion in which they are produced, the plant is a very valuable acquisition to this . . . much admired genus of plants." (*The Floricultural Cabinet*, August.)

CCXXVI. *Hydrophylleæ*.

3292. EUTOCA. [Bot. reg. 1784
divaricata Benth. straggling-habited O pr decumbent my.jn L V California 1833? S lt

The light violet corollas render it "pretty in bouquets;" but it is "hardly of more than botanical interest. Its seeds should be sown in August, in a situation neither overshadowed, nor too much exposed to the sun." (*Bot. Reg.*, August.)

EMBRYO MONOCOTYLEDONOUS.

CCXXXIV. *Bromeliææ*.

954a. DYCKIA Schultes filis ("The Prince of Salm-Reifferscheid-Dyck, a great lover of gardening, and one of the most liberal and intelligent of the noble patrons of science of the present day."—*Lindley*. See *Gard. Mag.*, ix. 46), 461. We presume that the name of the genus *Sálmea* Dec. has been applied in honour of the same person.) 6. 3. sp. 3.

rariflora Schultes filis scattered-flowered ♀ ♂ or 2 in O Serra of Villa Rica in Brazil 1832 [O S Bot. reg. 1782

"Agrees in many of its habits" with an aloe. Leaves fleshy, prickled at the edge, 7 in. long, by 4 to 6 lines broad at the base, linear-awl-shaped, spreading, recurved, surface dark green, sub-

face glaucous, both faces (at least, there is not an expression to restrict it to one) covered with a thick, horny, and in some degree scurfy, epidermis. Scape 2 ft. high, bearing the flowers in its upper part and scatteredly; eleven are shown in *Bot. Reg.*, August: in *Edin. New Phil. Journal*, July, they are stated to be about twelve: they are sessile, each in the axil of a bractea. Calyx and corolla of a full orange colour; calyx three-parted; corolla three-cleft, twice as long as the calyx; the three segments united at their base with the calyx; spreading at their tip, and disposed into a tubularly bell-shaped corolla, the length of which and of the calyx together is nearly an inch. Anthers and upper part of stamens obvious in the mouth of the corolla. Ovarium included within the calyx and corolla not positioned under them, many-seeded.

Dýckia rariflora is "very handsome." (*Dr. Graham*, in *Edin. N. P. J.*) "The dry stove seems to suit it, for there it produces its rich orange flowers in great perfection, and retains them in all their freshness and beauty for several weeks." It "propagates very slowly, after the manner of an aloe." It "is a native of the Serra of Villa Rica, in Brazil, where it and two more species were discovered by the indefatigable travellers Spix and Martius." (*Dr. Lindley*, in *Bot. Reg.*, August; where interesting information on the anatomy of the leaf of the *D. rariflora* is, besides, supplied.) *D. rariflora* was received into the collection in the Edinburgh Botanic Garden in 1832; into the collection of the London Horticultural Society in 1833; into both collections from that of the Berlin Botanic Garden. (*Bot. Reg.*, August; *Ed. N. P. J.*, July.)

CCXL. *Orchideæ*.

2481. *O'RCHIS* 22477 *tephrosánthos*. [*Bot. mag.* 3426
var. *densiflorus* *Hook.* crowded-spiked $\star \Delta$ or 1 my P W "Continent of Europe" O p.1
Synonyme: "*O'rchis simia* *DeCand.* Fl. Fr. ed. 3. v. 2. p. 249."—*Dr. Hooker.* Hence it probably is
also No. 22461. of Loudon's *Hort. Brit.*

Stem 1 ft. high. Leaves oblongo-lanceolate. Spike oval, of numerous, crowded, handsome, fragrant flowers. Sepals and petals purplish white, spotted. "This extremely handsome orchis has been received at the Glasgow Botanic Garden, from the Continent of Europe, under the name of *O. simia*; but a careful comparison with the rare *O. tephrosanthos* of the south of England will show that, notwithstanding its greater size and beauty, it can only be considered a luxuriant state of that plant." (*Bot. Mag.*, August.)

2530a. *MYA'NTHUS* *Lindl.* FLYWORT *Lindl.*
barbatus *Lindl.* bearded-labellumed $\text{£} \boxtimes$ cu $\frac{3}{4}$ f.mr G.P Demerara, near the falls of Wapo.
[pekai, on the Massarony river 1834, end of D p.r.w Bot. reg. 1778

On *M. cernuus* *Lindl.* some particulars have been cited in p. 28. *M. barbatus* has altogether the habit of *Catasètum*. The raceme of flowers consists of 9 or 10 of these. The perianth is in colour green, spotted with red brown; the labellum, of a

pale purple, has its edge fringed or bearded with numerous, long, slender, thread-like, white segments, so disposed as to cause the labellum to resemble the crest of some little bird. Discovered “by Mr. John Henchman [see his narrative in p. 113—118.] growing in the clefts of trees in shady situations. It was first sent us [Dr. Lindley] in February last by Mr. Low [of the Clapton Nursery], with whom it first flowered; but almost immediately after we received it from Chatsworth, and from the garden of Mr. Willmore of Oldford, near Birmingham.” (*Bot. Reg.*, August.)

2547. *DENDROBIUM.*22707a *cupreum* *Herbert*

copper-coloured-perianthed

£ ☐ or 2½ jn.jl

[D p.r.w Bot. reg. 1779

Pa.Cop East Indies 1825?

“Its flowers are of a pale copper colour, veined with a redder tinge, and have two brown-red blotches inside the lip. The spike of ten large flowers;” these “all expanded simultaneously. This species differs from *D. Calceolaria*, independently of the colour of the flowers, in not having such long shoots, and in having the leaves less attenuated and shorter. *D. Calceolaria*, under the same treatment, makes shoots above 4 ft. long; this plant under 3 ft.”

“It is curious that these *Dendrobiums*, if they miss flowering, put forth a young plant instead of a spike of flowers at the point of inflorescence, as *D. Calceolaria* is doing here now [midsummer, 1834].” (*Hon. and Rev. W. Herbert*, Spofforth, in *Bot. Reg.*, August. This gentleman has supplied the drawing figured: Dr. Wallich had sent, in about 1825, the kind to him.)

2569. *ANGRÆCUM.**distichum* *Lindl.*

two-rowed-leaved

£ ☐ cu ½

O W

Sierra Leone

1834?

[reg. 1781

D p.r.w Bot

Stems 3 in. to 4 in. high, in a little group or tuft, invested with short, recurved, blunt leaves, which are disposed in two rows, and imbricate each other closely, and are so far folded, that the base of one seems to rise out of the bosom or channel of the one next below it. Flowers milk-white, scentless, small. In its herbage “neat and pretty, . . . but having no striking beauty in its flowers.” Imported by Messrs. Loddiges. (*Bot. Reg.*, August.)

MISCELLANEOUS INTELLIGENCE.

ART. I. Foreign Notices.

FRANCE.

PARIS, Rue des Vignes, No. 5. à Chaillot, ce 25. Avril, 1835. — I happened to be absent scheming out several places when your letter of November last came to hand; but as soon as I returned I sent, as you desired, a short list of several trees that I had seen, and of many I had planted in different gardens, now mostly forming fine trees. There are none very scarce, or so rare as I could wish, as there are few people in France who like to spend money on rare exotic plants; and very few places which, as you observe, can be called gardenesque; which is certainly a new term, and a very just one, instead of picturesque. A great many remarks may be made upon the difficulties to be

encountered by a landscape-gardener. In the first place, when he is called to arrange a garden or park, the house is often already built, and probably badly placed : this must, of course, remain, and he must adapt his plan to it as well as he can. There are also other things which the proprietor will not change ; there are trees well or ill placed, which he will not cut down, as he wishes to spend as little money as possible, and to save as many of the already planted trees as can be made to give him shady walks, and to form landscape. From these data the landscape-gardener must start ; and, as he is not permitted to destroy fine trees because they are common, he is deprived of the advantages his art might derive from exotic planting. You remark that the style of natural, or landscape, gardening is neither generally understood nor duly appreciated in France ; you observe the want of close green turf : this is a general complaint, and, to obviate it by a selection of grass seeds, I tried at Bagatelle *Festuca ovina*, *Avèna pratensis* and *flavescens*, *Poa pratensis angustifolia*, and most of the finer sorts ; so that the turf seemed very good. But one season this lawn was attacked by what they call here the *ver blanc*, or the cockchafer grub, which entirely destroyed the grass, and, together with a flock of birds which came to eat these worms, rendered this lawn like a newly cultivated field. This is a casualty of no uncommon occurrence, but it is one which, I believe, you do not know in England or Scotland, where turf can be cut and rolled up like a piece of cloth. You are quite correct in what you say respecting the slovenly manner in which the generality of the gardens of France are kept : most of the proprietors enquire how much hay they can have from their lawn, instead of wishing to have a fine turf. The finest grass I have seen about Paris is in some fields near where I live, where the people are continually walking, and which are pastured with goats and asses for milk. This is what may be called natural grass, and, more surprising, is mostly composed of the *Poa annua*. You observe, very justly, the want of evergreens in the gardens in France ; but it is not for the want of planting ; there are many of these plants killed here every winter : however, the two last winters having passed with hardly any frost, many plants may be said now to be naturalised, as the roots have got far enough into the ground to be safe. I think I wrote, about three years ago, that even the whins [furze] and broom were killed here by the frost, and holly in many places ; so that I now frequently substitute other plants for these, as hardier, although not giving the same effect : among them I may mention the *Viburnum Lantana* and the *Cornus más*, likewise the *Salix caprea*, the male of which flowers at the same time with the *Cornus* : they are both very early-flowering trees, and have a very agreeable effect in a wood or shrubbery. The box likewise grows as underwood. I saw last autumn, in passing through Champagne, many tracts of land planted with *Pinus sylvestris*, but they did not seem to thrive. There were also whin hedges planted upon the banks of ditches, which, when I was there in March, were in flower, and made an agreeable enclosure without stopping the view. I advised several persons to cultivate that plant ; it was very common where I was last autumn, upon the borders of the Loire, and there seemed to be a native kind of the *Ulex europæa nana*, which might almost be called a distinct species. With regard to trees, the château called Beauvoir is placed upon a steep bank upon the border of the Loire, and, as the name will inform you, the view is fine : the park or garden runs all along the side of a tolerable hill, covered with wood, such as oaks, hornbeam, &c. There were also some of the *Juniperus communis*, very fine trees, some nearly 30 ft. high : in the bottom they had planted a large piece of ground with Lombardy poplars ; but most of those planted in the interior were dying. This I have observed in several places ; also that, where these trees are planted in the quincunx manner, they seldom thrive ; while those planted in single rows grow remarkably well. The river Loire makes a fine turn at Beauvoir, and seems to come straight on the château : over this there is a noble view extending over some leagues, and some scattered woods. The Château de Montigny, belonging to the Prince Laval Montmorency, terminates this extensive view. The Château de Mon-

tigny, which I went to see, has nothing remarkable ; but it possesses a fine view over a cultivated plain. It is a Gothic structure, very fine, and placed on such a steep bank, upon the borders of the river, that the terrace wall that supports the château is above 40 ft. high, and the river which runs underneath is not seen from the apartments. From this there is a long terrace walk, bordered with hornbeam hedges, so thick as to exclude every view. The wood belonging to this noble château is also artfully hid by raising a mountain above 20 ft. high. Can any one say this is either gardenesque or picturesque ? I visited another château, called Courtelaine, belonging to the Duc de Montmorency, which is certainly one of the most singular ancient châteaux I have seen ; it is a large Gothic building, so entirely covered, from top to bottom, with ivy, that no part of the wall is seen. The apartments are fine and noble, and the park, which contains above 400 acres, had been mostly laid out by the duke, although he had not formed any vistas, but planted at random. I marked out several changes to be made, which he soon saw and approved. They have, in this part of the country, also very much adopted whin hedges, which they call the Norman or Breton *jonc marin*, as this is very different from the dwarf species which grows commonly in this part of the country. I saw no new trees or shrubs in this district which were not common about Paris. Most of the Scotch pine, or *P. sylvestris*, did not seem to produce any good effect ; the *Pinus Stròbus* seemed to thrive much better, and was very beautiful ; the *Pinus Laricio* was likewise very fine and straight. The *Abies excelsa*, or common spruce fir, is certainly one of the finest trees there ; *A. álba* and *A. nìgra*, the white and black spruce, although about 30 ft. high, were almost dead ; likewise, the *Làrix* did not seem to make a fine tree ; the *Ailántus glandulòsa* was remarkably fine, and of a great size. I saw, also, some *Sophòra japonica* ; but they were not so fine as those in the garden where I live, and which are now coming into leaf. These two trees, from Japan, are amongst the latest in coming into leaf, and in flowering in this country ; the *Ailántus* flowers in July, and the *Sophòra* in August ; both produce an agreeable effect in landscape scenery, as there are few other trees in flower at this season. The Admiral Tchitchagoff has not returned to Scéaux since you saw him ; and I was informed that all his pines and hot-house plants had been sold, as it was thought he had been ordered to return to Russia.

I have received your Magazine, and agree with your observations on the introduction of exotics into landscape scenery, and in all your botanical arrangements ; although, sometimes, I must dissent from your ideas. High and fine keeping is certainly a great recommendation to a garden or park, but frequently fine landscapes can be procured with trees less expensive than those you recommend. One of your correspondents calls a fine horsechestnut, a lumpish tree, and says it ought not to be left upon a lawn. I have always seen this tree produce a most beautiful effect when left to nature, particularly when in blossom. I also approve of the *Pópulus álba*, and *Sàlix álba* seen in a distant view, joined with the *Elæágnus*. I am much inclined to group trees of nearly the same colour of foliage, that the lightness of their shade may prolong the perspective, which should be varied from different parts as much as possible. This I look upon as the greatest art in landscape-gardening, and I think it ought to be a standing principle.

As for gravel walks, there may be procured, in some parts of France, tolerably good gravel : I found some at Bagatelle when I made that place ; and the walks there were as fine as if made with Kensington gravel ; but, after a while, they put river gravel over the walks, which they prefer.—*Thomas Blaikie.*

GERMANY.

Munich, May 30. 1835. — Our new temple in the king's garden at Munich is nearly finished, and will form one of the finest objects in the garden. The temple is of white sandstone, and is designed and erected by the king's architect, Von Klenze, in the purest Grecian style. It is round, and is supported by ten Ionic pillars. Its decorations, according to the manner of the Greek

temples, will consist of paintings in encaustic with gilding; from which, and its elevated situation, it will present, in sunshine, a truly southernly character. The temple will also serve as a monument for the two princes who established this garden; viz. Carl Theodor, elector, and Maximilian, first king of Bavaria. Monuments are already erected to the memory of the two persons who laid out the garden; viz. Count Rumford and F. L. von Sckell, landscape-gardener.

The hill on which the temple stands will also soon be finished. I have already, this spring, laid out some of the plantations. I have accomplished the formation of this hill with the greatest difficulty; and, although I had previously made several artificial hills in the king's garden at Nymphenburg (and, I may flatter myself, not without credit), yet, from this situation being flat by nature, all the difficulties which usually present themselves seemed here united. Nothing which comes under the head of landscape-gardening seems to me so difficult as to give a natural appearance, and a suitable character, to the formation of a hill; and it is a good field for the talents of the designer. As to the formation of valleys, rockwork, rivers, brooks, grottoes, and springs, even the arrangement of plantations, they are, in my opinion, not to be compared with the difficulty of forming a hill.

[We should be greatly obliged to M. Sckell if he would send us a ground plan and sections of this hill, with a particular account of the manner in which he formed it, for the benefit of young landscape-gardeners.]

Munich advances rapidly in architectural beauties, and also in statuary and painting; and, when you next visit us, you will certainly not see without astonishment so many interesting improvements, all made since you were last here. Indeed, there is no city in Germany, and (Rome and Florence excepted), perhaps, there is no city in Europe, which, in respect to art, can be compared with Munich; and this taste for the arts among us is entirely owing to the present king.

This year is the twenty-fifth jubilee of our Agricultural Society; and our celebrated October festival, it is expected, will this year be particularly splendid. Should you, therefore, or any of your friends, be in Germany about this season, I hope you or they will endeavour to be in Munich about that time. I enclose you some information from M. von Klenze and M. Hermann (who has just set off for Greece) for your *Architectural Magazine*, which they both receive. — *Sckell, Director of the King's Garden, Munich.*

ITALY.

Peuta, near Salerno, June 13. 1835. — The principal reason of my tardiness in writing was the wish of giving you some account, from my personal observation, of the plants in the garden at Caserta, about which you are interested; and that could not be effected till the end of April, as the season has been uncommonly backward, and the camellias flowered accordingly. I observed the trees with much attention; and, though I could not measure them with technical accuracy, I could ascertain that all the measures I sent in January last [see p. 150.] fell short of the real dimensions. The largest magnolia is above 40 ft. high; the camphor laurel some 16 ft. higher; and all the others you mentioned larger than the first description, on an average, by 8 ft. or 10 ft. in height. I was unluckily engaged with a party of countrymen and women, which disabled me from making all the remarks that I could have wished for your information. After that, some particular business, and an excursion into the interior, prevented my giving you the present account; and my removal here for the summer induced me to defer writing till I was finally established, as I now am. I will, by the first opportunity, procure the catalogue of the botanic garden at Naples, and transmit it to you, with such observations as I can depend upon as to the growth of the different plants, &c. As to my own garden here, I can have no self-sufficiency in mentioning it favourably, as I have only possessed it two years, and it is, consequently, not the production of my taste, but of that of my predecessor, who planted a shrubbery, about

sixteen years since, which, thanks to the climate, and, I believe, some peculiarity in the soil, has grown and thriven in the most surprising manner: at the same time, except the pines, none of the trees have as yet acquired dimensions to make them remarkable. The locality (the latitude is more southern than Naples) is favourable to many plants which require a cooler temperature than that of the environs of the capital; so that I have vegetables and fruits which cannot be obtained there, such as raspberries, gooseberries, and currants, and, of course, flowers and shrubs which are subject to the same modifications. On the contrary, the more tender shrubs require protection during the winter, though they are planted out of doors, such as myrtles, oranges, and lemons, *Datura arborea* [*Brugmánsia suaveolens*], oleanders, &c.; but they are not covered: it is sufficient to protect their roots from frost, which is not unfrequent. The American laurel [*Magnolia grandiflora*] and the Portugal laurel grow freely and quickly here, which is not the case near Naples; but the finest plants I have are, an *Acácia hórrida* (I do not know if that is the accurate botanical name), the *Rhús viminalis*, *Eucalyptus*, *Metrosideros*, *Callistemon*, and *Melaleuca*, *Sparmannia africana* (not so fine as at Naples), and several very large specimens of the *Sterculia platanifolia*, which I have never seen elsewhere, and which are magnificent in shape, colour, foliage, and size. I am now trying the various tribes of rhododendrons, azaleas, and kalmias, which will scarcely live at Naples; and I have every reason to think that they will do very well, planted within the recesses of the shrubbery. The climate is much more variable than about the capital, and the summer less dry; but, except from this circumstance, it is difficult to account for the continued freshness of the soil, having no means (but very limited) of irrigating it; there being no running water, except a few fountains in the villages for the use of the inhabitants, who have, all of them, as I have, cisterns to collect the rain water for their habitual use. The level is considerably above the sea, though only five miles from it, but surrounded by still higher mountains; being, in fact, an elevated and irregular platform of about five miles in length and two wide, richly cultivated with corn and maize, vines, beans, and other vegetables; the hills covered to their summits with thick forests of sweet chestnuts, among which are found the hardy plants of our regions, holly, cornelian cherry, thorns, &c. There are some beautiful gardens belonging to villas in the immediate environs of Naples, but none at any distance from the capital; as the nobility, except through poverty or other inevitable causes, never inhabit the provinces. Of these gardens, that of Count Ricciardi is the richest in botanical plants of small growth; and the Villa Belvedere the most remarkable for its walks of *Ilex*, and some fine exotics of very remote date. I am told that a villa of Prince Butera's, close to Palermo, is the most interesting with regard to such plants as require a still warmer climate; and that it contains specimens of the most delicate productions, even of the tropics, growing abundantly in the open ground; but I have never had an opportunity of visiting it. The garden I possess, in the immediate environs of the capital, is very limited in its dimensions; and is more remarkable from the natural beauty of its situation, and the views it affords, than for its productions; as the locality, from being exposed to almost every wind, is not favourable to the rearing of plants. It is chiefly planted with *Ilex* and *Arbutus*, for the sake of shade and verdure; and its principal ornamental parts are assisted by all the mesembryanthemum tribe, which require neither water nor earth; and geraniums, which thrive in a most singular manner if a little sheltered from the high winds. The oleanders, myrtles, *Justicia*, *Eucalyptus*, *Dolichos*, *Bignonia venusta*, aloes, and *Cactus* of all kinds succeed also very well there; and all sorts of tender bulbs, amaryllis, ixia, and iris. — R. K. C.

AFRICA.

Nursery at Algiers. — A nursery ground has been formed at Algiers, with a view of naturalising such trees as flourish in climates not much dissimilar to that part of Africa. It now contains 13,000 mulberry trees, and 5000 young

plants; 7400 olive plants, 1164 varieties of fruit trees, a plantation of sugar canes, and plants of the indigo, cotton, and New Zealand flax, as well as a great number of trees and shrubs of South America and India. (*Printing Machine*, iii. 327.)

NORTH AMERICA.

Columbus, Ohio, March 1. 1835. — The gentlemen in New York to whom you gave me letters had, when I arrived there, all gone into the interior, on account of the yellow fever, except Mr. Michael Floy, who kindly procured me a situation as gardener to Arthur Tappan, Esq., a wealthy citizen of New York, who has a country residence at New Haven in Connecticut. I was immediately sent thither, and remained there till November last, when I started for this city; having previously made arrangements with the gentleman with whom I am now connected, to assist him in the management of a nursery that he had recently started, and which, I think, bids fair to pay us well for our time and trouble; first, because we have nothing of the kind to oppose us within several hundred miles; and, secondly, because we are situated in a state the most fertile, perhaps, of any in the Union, and which is frequently styled "the Queen of the West." The soil, as far as I have seen, is, for the most part, a rich loam, with here and there patches of a black alluvial description; and the whole is, upon an average, at least 2 ft. deep. . . . Though no great botanist or zoologist, I think I could collect some specimens both of plants and animals, more especially of birds, that would be interesting to naturalists in Europe, and of some benefit to myself, as well as to my native country. . . . Gardening is a good business in most cities, and good gardeners are very much in request: I do not mean such as make "forcing" their hobby; for at present but little of that is wanted in this country. The kind of gardener required is one who understands the management of a kitchen-garden, orchard, or fruit-garden, flower-garden, and green-house; but in the course of a few years there will be openings for the complete practical gardener. . . . I have sent you an account of the state of the weather for the last two months [it will be found in the *Mag. Nat. Hist.* for June], by which you will see the extreme severity of our last winter; Fahrenheit's thermometer having been several times below zero. Our address is Lazell and Hartwell, Columbus, Franklin County, Ohio, United States. — *George E. Hartwell.*

Our correspondent asks for seeds of ivy, holly, laurel, butcher's broom, privet, furze, broom, and laurustinus.

Philadelphia, May 18. 1835. — I send you, by this opportunity, some very large hickory nuts from the county of Alleghany. I purchased them in the Pittsburgh market, last September, while on a geographical tour; and some soft-shelled hickory nuts. The former will serve to add to your economical cabinet: the latter are sent to taste. Before they become rancid by age, they are truly delicious. The bark of the tree, in the course of the year, separates in large layers; and, as these do not always fall off, they give the body of the tree a rough look, and hence it is sometimes called "shag-bark hickory." In New York, the tree is called nut-wood, or kiskitawmus: whence the latter name is derived, I cannot say. [The shag-bark hickory is given in Sweet's *Hortus Britannicus*, ed. 1830, as the *Carya alba Nuttall*, *Juglans compressa Willdenow*.]

I wish you had enquired of the Duke of Wellington's gardener in what manner the Washington sweet chestnuts were sent to him. What could I do more than I did, sending them immersed in tallow, after picking them from under the tree, and taking some from the tree? If I live another year, I will have a young chestnut tree engrafted with the Washington tree, and send it to you in the autumn, unless you tell me that the risk (*via* Liverpool) will be too great to render the experiment advisable. I shall think nothing of the trouble. [Sound nuts, immersed in tallow, will do quite well: those sent by our correspondent, on two different occasions, bore evidence of having been attacked by insects before they were put into the tallow.]

The anecdotes of horticultural improvement in the vicinity of London, and of the importers of foreign trees into England, in your *Arboretum Britannicum*, interested me particularly. Your country owes much to Peter Collinson. I had for some time in my possession, and still have at my command, nearly a ream of letters from the English correspondents of John Bartram; and among them there are very many from the excellent Peter. He was the commission-merchant or agent through whom the orders for trees and plants to Bartram were sent. I recollect that the Dukes of Northumberland and Richmond, and Lord Petre, were constant customers. He mourns the death of the latter with parental feeling. I shall revere the memory of Collinson more than ever, now that I know, through your *Arboretum*, that the world is indebted to him for Catesby's *Natural History*. I knew that he was supported in his travels by several patrons; but it appears that their pecuniary supplies ceased when he returned home, and that, had it not been for Collinson, the generous patriotic "haberdasher of small wares," the work might not have seen the light; or, at least, not to the profit of the laborious naturalist. I regret very much that there is no line of packets to London from this port, nor even a regular trader. If I go to New York, as I intend to do shortly, I will take the stuffed black squirrel from the forest of Mercer county, and try to send it to you. — J. M.

SOUTH AMERICA.

Manufacture of Meal from the Cassava Root, and of the Indian Drink Pie-warrie. — Notwithstanding the long intercourse between Europeans and the aboriginal Indians of British Guiana (an intercourse which subsisted for many years under the Dutch government, before Guiana became annexed to the crown of England), the latter have as yet made no advances to civilisation; nor have they even assumed the ordinary decencies of European dress; and, with the exception of the national sash, worn by the males, and the small freemason-like apron, composed of beads, which, suspended by a string passed above the hip, adorns the softer sex, their bodies are quite uncovered.

The Indians, both male and female, are generally well made, though small and slight. Their hair is long, black, and glossy. They possess, with very few exceptions, not even an apology for a beard: their bodies are fat, sleek, and hairless, varying in colour from a light copper to a dark brown. The physical strength of the Indian is much inferior to that of the European or negro; yet, when they hire themselves out to work, they pursue all day the laborious occupation of paddling, apparently with slight fatigue. This may, perhaps, be accounted for on the score of habit; the Indian boy being provided with a small paddle as soon as he is able to wield it; the paddle being proportionately increased as he increases in size and strength. Thus, the muscles of the arm of an Indian become accustomed to the motion, which would weary an European in a few hours. It also sometimes happens that Indians engage themselves as woodcutters: and it is invariably observed that their allotted share of work in squaring timber is finished in less time, and in a superior manner to that of the best negro.

The males are, at home, extremely indolent, contenting themselves with fishing or hunting for a few hours in the morning, and remaining all the rest of the day listlessly swinging in their hammocks, from which they will scarcely arise for the purpose of eating their food.

I have never observed, nor have I heard of, any traces of religion existing among the Indians of Guiana; but they are subjected, in some degree, to superstition respecting birds, animals, and other subjects. I will mention one instance among several which came under my own observation. While pursuing our course up the river Masseroni, we entered a kind of bay formed by the river, and I soon perceived, by the quick stealthy paddling of the Indians, that something unusual was affecting them: upon enquiry, I was informed that, in the recesses of the bay, under water, lived a terrible monster, which,

should we attempt to enter the bay, would infallibly upset the canoe, and devour its unfortunate occupants. My loud laughter at this absurd notion caused a look of horror to overspread the faces of the Indians, who probably thought that my noise would disturb the aquatic gentleman, and cause our destruction. I used entreaties, threats, promises of money, and every argument I could think of to induce them to pull across the bay, but without effect. The Indians, generally so obedient and obliging, could not overcome the fear to which their superstition subjected them.

The logies, or habitations of the Indians, consist of upright posts with slanting roofs, thatched with palm leaves; the sides being entirely open. To the cross rafters are suspended their hammocks; in protecting which from the sun or rain by day, and the heavy dews at night, consists the only utility of these buildings.

The Indian exhibiting at home so much apathy, it is not at all difficult to suppose that the weight of the burden of domestic labour rests heavily upon the females; in justice to whom I must say, that their industry, meekness, and obedience are unbounded. To the women is assigned the duty of cultivating the cassava root and other vegetables, and of conveying them from the fields, which are oftentimes two or three miles from their habitations. The remainder of their time is occupied in grating the cassava, grinding or rather pounding their Indian corn, &c.; and I have, when sleeping near an Indian settlement, heard the women at work at some of these occupations three or four hours before daylight. The Indians of Guiana indulge in polygamy; an Indian of middle age having from three to five wives, marrying one when young himself, and taking a young one every few years: by this management, they contrive to have always one wife quite in her youth and beauty. The wives live together in great harmony; the favourite being distinguishable, perhaps, only by having a greater profusion of beads, or a gold coin or two suspended from her neck. The Indians are jealous in the most extreme degree, and very arbitrary with their women; the slightest dereliction of duty being punishable by death.

The labour required in cultivating the fruitful soil of Demerara is very slight. The principal article consumed as food by the Indians of Guiana is produced from the root of the bitter cassava. Plantains, yams, bananas, sweet cassava, pine-apples, and water melons comprise, I believe, most of the vegetables and fruits cultivated in the Indian fields. The Indian, however, derives many fruits from the bush; and, among others, several species of the *Pálmæ* produce fine fruits.

I have before said that from the cassava root is derived the principal vegetable food of the Indians; and, perhaps, a brief account of the process it undergoes in preparing it for use may be interesting to the readers of the *Gardener's Magazine*. It is well known that a powerful poison is contained in the juice of the bitter cassava; the root, therefore, after having been scraped clean, is grated upon a bamboo grater, and the pulp is put into a straining bag composed of rushes, the meshes of which are so contrived as to lengthen out when a weight is applied. The strainer is then suspended from an upright post, in the lower end of which several notches are cut at small distances from each other: through a loop at the bottom of the bag is inserted a long pole, one end of which is placed in one of the notches of the post, and upon the other end, the woman seats herself; and her weight, causing the bag to extend, squeezes out the juice. As the bag lengthens out, the pole is moved a notch lower down, till the juice is quite expressed, and the meal is turned out, to all appearance, as dry as flour. The meal is then spread out, without the addition of water or other fluid, into cakes about eighteen inches in diameter and a quarter of an inch in thickness. The cakes are placed in the sun, and, in a few hours, become firm, and will keep for a considerable time. The cassava bread possesses a bitter taste, which is peculiarly disagreeable to Europeans, and to overcome which a considerable residence in the country and constant use are necessary.

The celebrated Indian drink called *piewarrie* is produced from the cassava bread ; but the cakes, instead of being dried in the sun, are baked upon a sort of baking pan made of hardened clay, and are generally hung up in plantain leaves for a few days before using. Then the females, having prepared a large bowl, commence the operation of chewing the cakes ; and, after the incessant labours of six or eight women have accumulated a considerable quantity of the masticated material, a little water, I believe, is added, and the contents of the bowl are suffered to ferment for some days. The mass is then boiled, and, when cool, the *piewarrie* is ready for consumption ; but it improves greatly if kept a few weeks. In my opinion, the *piewarrie* is very agreeable and wholesome ; for I drank it in large quantities at the different Indian settlements which I visited, considering that if there were anything objectionable in the process, it would have been removed by the boiling and the fermentation ; and, having once tasted it, I liked it too well to allow any prejudice to make me refrain from its use. There are not, however, many Europeans who can overcome their repugnance at the idea of the preparatory process sufficiently to be able to drink the *piewarrie*. The worst of this preparation is, that the teeth of the Indian women are destroyed by it.

The Indian methods of taking fish are rather singular. One of the principal modes is, shooting them with the bow and arrow. This is practised with the best effect in parts of the rivers which abound in falls and sunken rocks ; for upon the rocks, under water, grows a moss which the fish are fond of ; and, when they come up to the surface of the water to feed on this moss, they fall an easy prey to the wily and skilful Indian. The Indians of Guiana, located invariably upon the banks of the magnificent river by which that country is intersected, and being accustomed, from their earliest youth, to be in and upon the water, possess the power of distinguishing objects below its surface in a degree which, to Europeans, is perfectly astonishing ; and, in paddling up a river, they can observe a fish at a considerable distance from their canoe. As soon as the Indian in the bows of the canoe sees a fish ahead, a motion of his finger conveys the knowledge to his companions, and, at the same time, points out the direction in which the canoe must move : the Indians then paddle with the greatest silence and caution, obeying all the motions of the bowman ; their faces exhibiting the most intense interest in the sport. The bowman, in the meantime, having his bow and barbed arrow ready, stands up in the canoe, forming a highly interesting object, as he bends forward, with his eye riveted on his intended prey. When he judges himself within the proper distance, the bow is quickly drawn, and the arrow seldom fails to pierce through the unsuspecting fish ; and the Indian, throwing down his bow, plunges into the river, and, seizing the arrow near its head, secures the prize. Sometimes, however, a strong fish will swim a considerable distance with the current ; in which case a sharp look out must be kept for the head of the arrow when the fish again rises near the surface : when seen, the canoe is gently paddled up to it ; and, if the Indian gets within a spring of it, he seldom, if ever, misses his hold. We once saw the head of an arrow floating down the river, and, paddling quietly up to it, secured a fine fish which had baffled the pursuit of some other Indians. Some of the principal fish in the Demerara rivers are the *pachu*, the *caterback*, the *sunfish*, and the *salu*, all of which are delicious and plentiful.

Among several other Indian methods of taking fish, one is, I think, especially worthy of notice, as showing the acuteness of the Indian in adapting and reducing to practice his observations of nature. The fish are, at certain seasons, fond of the various fruits of the trees overhanging the river ; and the Indian, having provided himself with a pliant rod and a strong line and hook, attaches to the latter one of the said fruits ; and, suffering his canoe to glide down the stream, with a jerk of his wrist, causes the bait to fall into the water with a loud pop, similar to that caused by the fruit falling from the tree : at this well-known signal the fish seldom fails to rise and take the bait ; and

then, as the Indians have no reel, the canoe is paddled after the fish in its struggle to escape; and, when the fish is fairly tired, it is hauled up to the surface, and speared.

The Indian possesses a perfect knowledge of the trees, &c., of the forest, and has a name for each; nor is this the extent of his botanical knowledge, for in most instances he is acquainted with their medicinal properties. In all their excursions, the men are very studious to impress on the minds of their children the names, properties, times of flowering, fruiting, &c., of the various trees they fall in with. The flowering of different trees is also the medium through which the Indian ascertains the progress of the seasons.

The honesty of the natives of Guiana is great, and greatly to be respected. In my expedition up the Masseroni, and on several other excursions, I took with me a box containing beads, hooks, knives, cutlasses, and other articles of Indian commerce, to exchange for cassava bread, and also as part payment of those Indians who paddled me up the river. The box I had often occasion to leave in the different Indian settlements which I visited; and although, as I was well aware, the box being open, the Indians turned over and examined every article in it, I never lost so much as a bunch of beads. One thing, however, I am sorry to add, overcomes the scruples of an Indian's conscience: if you should chance to take with you a bottle of rum or brandy as a remedy against the rains and dews, keep it by all means out of the Indian's way; for, if you leave it in his sight, you will surely find your bottle empty at your return. The vice of drunkenness is the great, I may say, perhaps, the only, stain on the character of the Indian of Demerara; and as, however unwillingly I may expose the failing, I must not conceal the truth, I have every reason to believe that this vice existed among them previously to their acquaintance with the ardent spirits of the European. When I first entered an Indian settlement, I was much struck at observing, in some of the logies, four or five large pieces of the trunks of trees; they might probably be about 5 ft. or 6 ft. long, and 2 ft. in diameter: upon examination, they proved to have been hollowed by fire; and, on making enquiries as to their utility, I was informed that they were used to contain the drink called *piewarrie*: and I further ascertained that, occasionally, when the Indians have a large crop of cassava, the women chew away till sufficient *piewarrie* is accumulated to fill all these large vessels. The Indians then invite their friends; and, being all painted in their best style, they commence drinking; each man being compelled to empty, as often as the females present them, large calabashes, containing, probably, three pints. It is easy to suppose that drunkenness succeeds quickly to this deep drinking, and that the Indians tumble over one another, male and female, in a state of beastly intoxication. It would be well if the scene ended here; but, according to the Indian customs, this drinking must be continued day after day, until every drop of the stock is exhausted; the Indians drinking and vomiting incessantly for sometimes a fortnight at a time. Let us drop a veil over this failing of the poor Indian, and turn to a more pleasing trait in his character, his hospitality. Never did I enter an Indian logie without having the best fare the Indian possessed set unostentatiously before me: indeed, they scarcely seemed to consider any invitation to eat or drink necessary; a glance of the eye, or a graceful wave of the hand intimating their wish to see you commence. The flesh of the jaguar, the young cayman, the wild hog, the laba, the *atrouri*, are among the dainties I have been offered, and have freely partaken of, among them.

The Indians still pretend to hold in contempt the Europeans, who, they assert, are merely suffered by them to remain on the Indian territory. The ways in which this fancied superiority shows itself are often highly amusing. For instance, when one of the various chiefs to whom the English government has granted the title of captain proceeds to Georgetown, he is always accompanied by thirty or forty of his tribe; being himself habited in an old red coat presented by government, and the rest of his body being naked. Thus attired, the chief, on his arrival at the town, goes first to pay a visit to

the governor ; and being, with all his naked squad, introduced into His Excellency's presence, the Indian immediately seats himself, and then holds out his hand to the governor, his party squatting round him on the floor. Having held his talk, and received a present of a little rum, or something of the kind, he then betakes himself to the logies erected in town for the convenience of the Indians. On no occasion does the Indian omit this assumption of equality ; and it is the only part of his conduct which at all savours of forwardness, as in general the Indians are rather retiring.

One reason that rendered the Indians particular favourites of mine was one which a person unacquainted with their character would perhaps find difficult to reconcile with the apathy which, generally speaking, so remarkably distinguishes them ; it was, their constant readiness to oblige. If a negro in Demerara is requested even to rise at his accustomed time, or to perform his usual work, ten to one but he grumbles and delays in the performance of it ; but the Indian, if you wish to paddle all night, is ready ; or if you wish to start three or four hours before daylight, he is ready, without any of that grumbling and discontent, which renders it preferable to do anything oneself rather than to request its performance by another.

The last trait of the Indian character which I shall mention is one as strongly and unalterably stamped as any I have previously related ; this is, their intense hatred of the negro race. At the period of the well-remembered revolt of the slaves in Demerara, a large party of Indians readily volunteered to assist the whites ; and were of considerable use in hunting the negroes out of the bush. Several of the negro leaders were, indeed, shot by them while endeavouring to escape ; and, at the present time, if any negro, having run away from his master, happens to fall into the hands of the Indians, he is instantly seized by them, and reconveyed to Georgetown.

This hatred may, perhaps, be accounted for by the wide difference in the character of the two nations. The Indian is distinguished by gravity of demeanour, command of temper, silence, honesty, and habits of great cleanliness and decency. The negro slave, on the contrary, indulges in the most uproarious mirth ; is remarkable for loud and incessant talking ; makes free with his neighbour's goods, as if they were his own ; and in his habits is uncleanly and indecent in the highest degree. It is not wonderful, therefore, that the negro, whose whole conduct is the direct reverse of all that the Indian prides himself in, should become an object of hatred to the latter. In concluding these few remarks upon the Indians of British Guiana, I cannot but express how high an opinion I have of their general character, and how happy I should be did my researches after the novelties of the vegetable kingdom carry me always among a people at once so hospitable, honest, quiet, and obliging ; and I cannot but express my regret that strenuous endeavours are not made to diffuse among them the light of the Christian religion, and to inspire them with admiration of, and a wish to imitate and to enjoy, the comforts and decencies of civilised life. — *John Henchman. Clapton Nursery, Feb. 1. 1835.*

ART. II. Domestic Notices.

ENGLAND.

THE Devon and Exeter Botanical and Horticultural Society. — It is contrary to our plan to notice provincial horticultural societies, otherwise than in our last Number for the year ; but we make a deviation in favour of the Devon Society, which, according to the newspapers sent us, appears to be one of the most flourishing in England, and to have exhibitions in no degree inferior to the London Society. In the account of the exhibition for June we were particularly pleased with the following passage, by which it appears that the principle of arrangement which we have always been contending for, in the exhibition of dahlias, chrysanthemums, heartseases, tulips, and other flowers, as well as in the arrangement of plants of different species of the same genus, has

been successfully carried into execution. "Messrs. Lucombe, Pince, and Co's plants, &c., were arranged; they were classed in masses of distinct kinds, which were again subdivided according to their various contrasted hues: the advantages of the application of scientific principles, and of system, were here apparent, great judgment being exercised in the regulation of light and shade; while the effect of the whole was of the most picturesque and agreeable kind, and well worthy of imitation." (*Treuman's Exeter Flying Post*, June 25.)

The *Manchester Botanic Garden* has undergone much alteration since last year. Those of your readers who are acquainted with these gardens know how comparatively uninteresting the west end was. After leaving the rockery (the most interesting part of the gardens), the fruit garden wall, with little or no shade, presented a very bare and unpleasant appearance, altogether out of harmony with the rural scenery on which the eye had just been dwelling; and the ground between the wall and the walk was planted only with natural grasses. The rosary, in fact, was the only temptation to the west end at all. The aspect, however, of this part of the garden is now entirely changed; and what was the least frequented part of the grounds, will most certainly become a principal resort. The blank wall is hidden by artificial hills, belting an oblong sheet of water, which comes immediately up to the rockery, and as viewed from thence presents a very beautiful and picturesque appearance. These mounds are temporarily covered with dahlias, but are intended for evergreens, rhododendrons in particular: a narrow winding walk leads from the herbaceous ground, so that the visiter can see nothing of the lake until immediately upon it. Two rural paths diverge into the rosary, which is also entirely hidden from view. The extremity of the lake next the rockery is banked up with stones, which, with the rock behind, have a very beautiful effect, reflected in the lake at sunset. Other alterations are contemplated, and in course of being effected. A house for the propagation of plants is under erection at the west corner of the fruit-garden; and the land is also staked out for the building of a large ornamental centre conservatory. The whole garden certainly reflects great credit on the taste and management of Mr. Campbell, the curator. — *Arthur Burgess. Lower Broughton, near Manchester, May, 1835.*

Elæocárpus cyàneus. — A beautiful specimen of this Australian shrub was exhibited by Mrs. Maryatt, at the Horticultural Society's meeting, in Regent Street, on July 7. It was a plant, in a pot, not above $2\frac{1}{2}$ ft. high, but it had several bunches of its beautiful bell-shaped white flowers, with petals fringed at the edges, as if they had been cut out of paper with a pair of scissors; and it had a bunch of ripe fruit. The length and general appearance of the spike are something like those of *Prúnus Pádus*; and the leaves, also, and general appearance of the plant, have something of the aspect of that tree. The berries were of a shining dark bottle blue, being about the same size as those of *Prúnus Pádus* var. *bracteolàta*, with the spike loose and hanging down, as on that tree. *Elæocárpus cyàneus* is by no means new, having been introduced from New Holland in 1803; nor is it either scarce or tender; for we have had a plant for five winters, to illustrate the order *Elæocárpeæ*, which is placed against a wall, in our Representative System of Green-house Plants, which, for the last two winters, has only been protected by glass, without artificial heat. Our plant is so crowded and shaded, like almost every thing else in our small garden, that it has not attained the height of a foot. Like, we dare say, many others who possess this *Elæocárpus*, we had not the least idea of what it was capable of becoming when treated with ordinary care. Mrs. Maryatt has, however, shown what a beautiful plant it is, when it is allowed an opportunity of flowering; and we do not doubt that it will soon become a great favourite. — *Cond.*

Alstræmèria acutifòlia is perfectly hardy. — Its roots endure the winter here remarkably well when planted in a light sandy soil, and about 6 in. under the surface. On Christmas-day last it was beautifully in blossom; and, although we have had some considerable frosts this winter, they have made no im-

pression whatever on the flowers. — *T. M. Lindsay. High Clere Gardens, June 1. 1835.*

Faulkner's New Scarlet Pine. — A remarkably productive and fine-flavoured strawberry has been raised by Mr. Faulkner, of the Flora Tea Gardens, Battersea Fields. It is of a particularly fine clear colour, high flavour, and in productiveness, judging from the produce of a single plant which was brought to us, we should say that it excels all others. We are confirmed in this opinion of Mr. Faulkner's scarlet by no ordinary judge, Mr. Charlwood, who, indeed, first directed our attention to it. We hope the public will, at all events, give it a trial. — *Cond.*

ART. III. *Retrospective Criticism.*

ERRATUM. — In Mr. Errington's paper (p. 347.), for "stone pots," read "store pots."

The Coiling System of Vine Culture. (p. 362.) — When the system of coiling the shoots of grape vines into pots, with the view of producing fruit the first season, first suggested itself to me, I had to select them from amongst a number of shoots thrown promiscuously together, of many kinds; and none of those were by any means well suited for my purpose, being long naked shoots, without any buds in a fit state to produce fruit; but, as I had nothing better at hand at that time, and was anxious to try the experiment, I coiled three of the finest into pots proportionate to the coil, strength, and length of each shoot, in His Grace's presence, and in the manner previously described to you. Each of those produced a bunch of grapes the same season, and the sorts proved to be the muscat of Alexandria, the black Damascus, and black Tripoli: they all perfected themselves as well as I ever saw them under any circumstances. From the weak state of the wood, the bunches were not large, but the berries swelled off very finely, and ripened perfectly.

Satisfied with the result of the first experiment, I was anxious for the approach of another season to prove it upon a larger scale, and made a selection of the best possible shoots for my purpose; as we were removing all the old established vines at Welbeck, with the object of chambering the roots, so as to keep them from being influenced by the cold, wet, clayey subsoil of the gardens here, which has often been the unfortunate cause of failure in them, and other crops. The first that I coiled last season was a Miller's Burgundy, which perfected fifteen bunches: they are as good and perfect as I ever saw of that grape, and were the *earliest ripened* of any here.

I coiled many others in the course of the early spring, and I believe that none which I had confidence in disappointed me; and such as did not fruit to my satisfaction the first season were, by a judicious attention, made certain fruiters the second, of whatever kinds they were; and the fruit was as fine as from longer-established vines.

The muscat noticed above was planted on the border of the great stove here last season; and its second produce was fifteen fine and well-matured bunches. This season I left only fifteen bunches upon it; and they are as fine bunches, and as regularly well-swelled berries, as I have ever seen upon muscats; and I believe that, had I left on double the crop, the vine would have perfected them, from the great degree of luxuriance which it exhibits. The black Damascus of my first experiment produced four fine bunches the second season; and this season I left four on, which are now perfectly ripe, fine bunches, and the grapes as large as sloes. In fact, none of the vines thus treated will miss a crop under a judicious, and yet simple discipline; and they will continue luxuriantly fruitful for years. I ought here to state, that the black Damascus still remains in the pot, which is the reason of leaving so few bunches upon it; but I have others (black Damascuses) of last year's coilers, with the same crop of fruit, and equally promising.

I believe that I stated, in a former letter, that I had a fine variety of muscat, called the Candia, from Mr. Macdonald of Dalkeith, last year. I received it, as I formerly stated to you, a rootless branch, and very full, to all appearance, of fine fruit buds; but, although it showed such an abundance of buds, they all dwindled and dropped, as Mr. Fish's did. As many of my other vines had succeeded under far more unfavourable circumstances, I suspected that I had not been sufficiently careful in cutting off all those warty excrescences peculiar to the vine, and that there were underground suckers arising from them; and, upon inspection, I found this to be the case, and carefully detached three or four very strong ones, springing up like strong asparagus buds. In a short time the vine showed great vigour, and, by a judicious attention to the stopping system (on which the success of the pot culture of grapes so much depends), I soon had a show of plenty of fruit; but, as I was more desirous of fine wood for the second season than a crop of fruit for the first, I detached all but three bunches, which swelled off finely, and were of excellent flavour. The vine is still in the same ($\frac{1}{2}$ B.) pot into which it was first coiled, and has at this time a beautiful display of fifteen bunches of grapes, now changing to a fine pale amber colour; and under no system can grapes swell off more finely, or promise a higher degree of maturation. I beg here to remark, and it is a circumstance worthy of notice and of great importance, for I believe few besides those who have been long in the habit of cultivating the grape in pots successfully are aware of it, that grapes are brought to a much *higher* degree of perfection in pots, or when the roots are confined to a congenial situation, than by the usual practice.

None of my vines from coilers of last season, which were properly prepared, have missed fruiting; and, of course, I took in none but what I considered were perfectly so: where there are many, they cannot all enjoy favourable situations, or have equal attention paid to them; consequently, as in every thing else of the kind, there will always be some, like pines, not fit for fruiting till a third season; but, in a general way, like the pine, they are to be fruited in perfection the *second* season. I have had a great quantity of fine pot grapes this season, from established vines; but I had, and have, together, 306 bunches of fine grapes from coilers of last season, and upon forty coilers. One white muscadine has twenty bunches left on; and they promise to be fine, which I have no doubt they will be: it showed nearly four bunches from every eye. The Candia, just noticed, with fifteen bunches, showed ninety-five this season; and it promises as well for a fine crop the third season, as if it were a five-year-old vine from a single eye, or usual cutting.

I have had (I say have had, as many were cut for the table in May and June) about seventy bunches upon cuttings of this season; and one white Frontignan has, at this time, fifteen bunches. It had sixteen retained; but one was detached, being small and crowding some of the rest. Twelve coilers of this season have sixty-eight fine bunches on them, and promise well for next season. Any chance to miss fruiting, if I find that I require them, I infallibly make fruited the second season.

Two small cuttings of the Chasselas musqué, which I received from the Horticultural Society last year, have, at this time, six bunches to each; and, I believe, will be as fine as the kind can produce.

The purple Constantia coiler of last year, questioned, is no deception; for, had the small fibre retained been detached, I do not believe that it would have made the slightest difference as to its first year's produce; and I may detach every root and fibre from it next season without the fear of its not producing a crop, if retained in a root temperature of from 90° to 100°, till the fruit is perfectly set.

If I were to notice what we have done here by the removal of very old rooted vines, the first, and especially the second season; or, if Mr. Fish were to see them, I think he would be convinced of the excellence of my system.

Until the pot culture of the grape is more enthusiastically entered into, and its real utility appreciated as it merits to be, the coiling system will never be

successfully performed, unless by those perfectly well acquainted with pot culture. It is strange that the importance of it is not more generally appreciated both by gardeners and amateurs; but I trust that the above facts will induce its more general adoption. — *John Mearns. Welbeck Gardens, July, 13. 1835.*

The Coiling System of Vine Culture, &c. (p. 435.) — Not having received the *Gardener's Magazine* until last night will excuse me for not earlier noticing Mr. Marnock's criticism. If designed as a panegyric of Mr. Mearns, I do not question its propriety; but, whether it be an answer to my letter, the public will best decide. That Mr. Marnock should draw not very obvious inferences from my letter, and upon these erect propositions which, if not fully rebutted, place Mr. Mearns in rather an awkward predicament, is no business of mine; all I shall say is, that, were I in Mr. Mearns's place, I should be apt to exclaim, "Save me from my friends!" Perceiving, from the cover of the *Magazine*, that Mr. Mearns's letter will appear in September, I am unwilling to trespass at present upon your pages; but, as Mr. Marnock has voluntarily entered the field, I consider it to be my duty to make some remarks on one or two of his statements. Passing over, then, a charge of a want of courtesy, with merely expressing my regret that I should have used any general proposition capable of being construed, by the most fastidious, into a personal attack, I proceed to what Mr. Marnock styles, "a not very definite or satisfactory mode of reasoning." And what is it? The plain simple fact, that I gave not a list of the names of those who, like myself, had failed in the experiment. Surely, Mr. Marnock must consider me a simpleton, if he supposes that I would have the weakness to make a public statement which I could not prove. If he has read the first part of my letter, he will there find one reason why the names were not given. If he will be informed that there are friends of Mr. Mearns, who have failed more than once, and, out of personal regard to him, decline to allow the result of their trials to be made public, he will see another reason. If very anxious upon the subject, I shall have no hesitation in furnishing him, by a private letter, with plenty of names, and he can then examine for himself the accuracy of my enquiries and observations; and, if this will not satisfy him, I pledge myself to give as many names of respectable gardeners who have failed as he can ever desire, and who are not ashamed publicly to own their want of success. But, waving this, the question naturally arises, if Mr. Marnock has seen my deficiencies and errors, what has he done to obviate or counteract them? Has he attempted to prove the incorrectness of any statement I have made? Has he fairly met and controverted any principle I have advanced? Has he sapped the foundation of any chain of reasoning by which I endeavoured to show that, so far as success the first season is concerned, the system would not be attended with utility? And, in fine, has he met my unfair mode of reasoning by a fairer, by giving a host of names of successful experimenters? No! This would have borne directly upon the subject; this would have done something towards answering the questions I proposed; this would have been accompanying precept by example: but this would have required more time and labour than the writing of a complimentary letter; and, therefore, he diverts the attention from the subject at issue, by introducing matter that has as much connexion with it as that individual has with promoting the real ends of justice, who strives to screen a prisoner from its influence by pleading some trifling flaw in the indictment.

Waving other statements, I should like to know what Mr. Marnock means by the "protection and courtesy" necessary to enable the senior branches of the profession to publish their valuable discoveries. Entertaining the highest opinion of Mr. Marnock, ever since I first saw his name in the *Magazine*, I am at a loss to reconcile that opinion with the narrowmindedness which appears to me to be closely associated here with the very word "protection." Surely, the public and the press are quite sufficient protection for any man who brings his opinions or systems under their cognizance. Mr. Mearns has published what he considers a beneficial system. So far as success the first season

is concerned, I have called in question the utility of that system. Mr. Mearns has an undoubted right to overthrow my propositions, and strengthen more firmly his former statements : and what more protection would any man require, who unflinchingly sacrifices every opposing feeling at the shrine of justice and of truth ? That there are men who cannot brook the idea of investigation, I know full well ; but rather would I remain ignorant of their discoveries, than receive them at a cost which their value never would compensate. Surely, Mr. Marnock knows that truth needs no protection ; that, instead of injuring it, the keenest scrutiny, and the strictest investigation, are the very elements in which it thrives. Leave it to itself, and it assumes a giant-like form, walking with majestic strides over moral hill and vale : wrap it in the mantle of protection, and you render it weak and imbecile as the infant in its cradle. All history, all experience, proves this. Examine the state of religion, of politics, and science, and say if the mighty changes and improvements effected in one and all have not been the result of the naturally unfettered mind, nobly asserting its native right to think, discuss, and form conclusions for itself ; thus bursting through the trammels of that protection afforded to a peculiar but almost universal system of reasoning, which diffused a lethargic torpor over its best faculties, and tied down, spell-bound, its loftiest aspirings to a tacit acquiescence in the propositions of man ; as if they had been the incontrovertible emanations of divinity. Looking upon discussion as the great friend of truth, whatever may be the result of the present enquiry, I shall rest satisfied that the course I have adopted was the only one by which I could discharge my duty to myself, to Mr. Mearns, or to the gardening public. — *Robert Fish. Hyac Park Corner, Aug. 5. 1835.*

The Shrivelling of Grapes, &c. (X. 18.) — The other day, in looking over some former numbers of your Magazine, I met with a paper written by Scientiæ, &c. (X. 18.), a writer I admire for his respectful and consistent mode of arguing. He there alludes to the shrivelling of the grape ; and I, having written a paper on it in the same volume (p. 137.), in which you omitted to insert what I think the most important matter, am induced to make this second attempt to state what I consider to be the general cause of the grape's shrivelling. In the paper alluded to, in X. 137., you omitted to state clearly, that I considered it was from the footstalk of the berry not being grown sufficiently firm and hard, which I believe is the only cause. If the grape is grown in a humid atmosphere, it elongates the footstalk, and causes it to be of a slender, thin, delicate texture ; and, in case of a sudden change, even for a short time, the footstalk is easily affected. I think, almost invariably, if the berries which are shrivelled be examined, they will be found to be of a very slender delicate texture, and with a black speck on the footstalk. When this injury takes place, as I believe, from the delicacy of the footstalk, the sap ceases to circulate in the manner required, I think this disease may be remedied by keeping the early-forced grapes with less humidity in the house than some use when the crop is young, which helps to elongate the footstalk. In later grapes, if there were more air admitted, or artificial heat kept up in cold damp weather, either would remedy the disease ; but, as I stated in my former paper, give air and artificial heat at the same time. As I am making this second attempt to impress on the mind of the reader that the cause is really in the footstalk, I can and will advance a few things to make it more evident. I was asked, this season, by a gardener, what I would say to a vineyard being left a little open all night at top ; my reply was, I had not tried it, but I would not hesitate in saying it was more likely to do good than harm. He said that there were the finest grapes in a house so treated that he had seen all the season. I was asking a gardener, about Christmas, how his grapes had done this year ; his reply was, " Very well ; I adopted your plan (except one light, which I could not move), giving plenty of air. The grapes under the light which I could not move were not so good as the others." In a house I had this disease take the crop, with the exception of a vine at the end where the steam-pipe entered producing a great and drying heat ; and there was a door, with a ventilator over it, which

all aided to keep off the disease. This vine alone was always free from it: this speaks for itself. Perhaps many may think I am too sanguine on this subject; but, should I be right in my opinion, and in the means of producing a remedy, I shall be vain enough to think I have done some real good. Should any person really find the correctness of it, I hope they will do me the favour to acknowledge it in your Magazine, which will be attended with some good; and should it be fairly proved my idea is wrong, I invite the same insertion from those who may have proved it to be so: but let them give it more than one trial, and fair ones; for I have no desire to mislead. I know it is apt to be too much the case that imperfect trials are made, and often but one, which I never feel satisfied with; for unknown accidents often interfered in one trial, which might not in the second. — *J. D. Parks. Dartford Nursery, May 20. 1835.*

To prevent the Effect of Frost on Brick Walls. — I recollect reading in your account of visiting Claremont (vol. x. p. 325.), that you state Mr. M^cIntosh had had the top of his water-basin leaded for some distance down, to prevent the frost from tearing it to pieces. I believe it is not generally known, that, if the bricks were not laid in mortar, the frost would not have any effect in lifting them, and that the cement over the ends of the bricks is sufficient for keeping the water without any mortar. Cement, I believe, might be used with safety; but even it is not required. — *Id.*

ART. IV. *The London Horticultural Society and Garden.*

JULY 21. 1835. — *Read.* A communication on the preservation of the Golden Harvey apple; by John Disney, Esq., F.H.S.

The Groby Medal awarded to Mr. James Bruce. — It was announced that the gold medal, which had been placed at the disposal of the Society by the Right Hon. Lord Grey of Groby, for the best specimen of the most rare orchideous or parasitical plant exhibited between July 1. 1834, and July 1. 1835, had been awarded to Mr. James Bruce, gardener to Boyd Miller, Esq., of Mitcham, for a specimen of *Oncidium ciliatum*, with forty-four flowers in its panicle, which was exhibited at the Society's meeting on Nov. 4. 1834.

Exhibited. Seedling varieties of *Pelargonium* from Mr. J. Maker, jun., gardener to the Hon. J. Westenra, Fifield, near Maidenhead, Berkshire. Flowering specimens of five kinds of *Passiflora*, from Mrs. Marryatt. Carnations and picotees, from Mrs. Lawrence. Flowers of kinds of *Dahlia*, from Messrs. Chandler. Models of flowers in wax, from Miss Tayspill, 213. Oxford Street. A cucumber from a plant which had grown in a grapery without heat, trained along the wires, from T. Jesson, Esq.

Also, from the Garden of the Society. — Flowers: *Alstræmeria aurea*, *Anomatheca cruenta*, *Solanum etuberosum*, *Eschscholtzia crœcea*, *Lupinus nanus* and *mutabilis*, *Chelone centranthifolia*, *Tournefortia heliotropioides*, *Clarkia elegans* and *pulchella alba*, *Oenothera densiflora*, *Spiræa ariæfolia*, *Magnolia grandiflora* var. *præcox* d'Andry, *Potentilla Hopwoodiana* and *Russelliana*, *Catananche bicolor*, stocks, roses, dahlias. Fruit: Royal duke cherry; this very valuable sort was received from France under the names of *Royale tardive* or *Anglaise tardive*: it possesses all the good qualities of the May duke, ripening after it is over. The cherries shown were from a standard; and would have been much larger had the season not been so dry.

August 4. — *Read.* An account of the propagation of *Mimulus Youngii* and *Petunia violacea*, by G. R. G. Ricketts, Esq., F.H.S.

Exhibited. *Rosa microphylla*, from E. Johnston, Esq. An unnamed kind of rose, and flowers of kinds of dahlias, from Messrs. Chandler. A melon, from Mr. G. Mills, F.H.S. Drawings of fruits and flowers, from Mrs. Withers.

Also, from the Garden of the Society. — Flowers: *Ceanothus azureus*, *Wistaria Consequana*, *Penstemon Richardsonii*, *Chelone centranthifolia*, *Podolepis*

gracilis; *Lupinus ornatus*, *mutabilis*, and *Cruckshanksii*; *Tournefortia heliotropioides*, *Madia elegans*, *Málope grandiflora*, *Ceanothera densiflora*, *Diplopappus incanus*, *Eschscholtzia crocea*, *Cápparis spinosa*, roses of the Noisette and Chinese kinds, dahlias.—Fruits. Finger grape: late duke cherry, from a standard tree; the kind is a great bearer: red Astrachan apple; smaller than usual, owing to the drought, but better in quality: early harvest; one of the best early kinds of apple, it is of American origin, and the trees of it have this year escaped the blight, which has been so destructive to almost every sort.

ART. V. Covent Garden Market.

		From	To			From	To
		£ s. d.	£ s. d.			£ s. d.	£ s. d.
<i>The Cabbage Tribe.</i>							
Cabbage, per dozen :				Lavender, per dozen bunches		0 2 6	0 3 0
White - - - - -	-	0 0 10	0 1 3	Tansy, per dozen bunches -	-	0 1 0	0 0 0
Red - - - - -	-	0 3 0	0 4 0	<i>Stalks and Fruits for Tarts,</i>			
Plants, or Coleworts -	-	0 2 6	0 3 0	<i>Pickling, &c.</i>			
<i>Legumes.</i>				Vegetable Marrow, per dozen		0 1 6	0 2 0
Peas { per half sieve - -	-	0 1 6	0 2 0	Tomatoes, per punnet -	-	0 1 0	0 1 5
{ per sieve - - - -	-	0 3 6	0 6 0	Capsicums, per hundred -	-	0 4 0	0 0 0
Beans, Windsor, { per ½ sieve	-	0 1 0	0 1 3	<i>Edible Fungi and Fuci.</i>			
{ per sack - - - -	-	0 5 0	0 8 0	Mushrooms, per pottle -	-	0 1 0	0 1 6
Kidneybeans, per ½ sieve -	-	0 2 6	0 3 0	Morels, dry, per pound -	-	0 14 0	0 16 0
<i>Tubers and Roots.</i>				Truffles, dry, per pound :			
Potatoes - { per ton - -	-	2 10 0	4 0 0	English - - - - -	-	0 14 0	0 0 0
{ per cwt. - - - -	-	0 2 9	0 4 6	Foreign - - - - -	-	0 16 0	0 0 0
{ per bushel - - -	-	0 1 6	0 2 3	<i>Fruits.</i>			
Kidney, per bushel - -	-	0 2 6	0 4 0	Apples, per bushel :			
New, per pound - - -	-	0 0 1	0 0 1½	King Pippins - - -	-	0 8 0	0 10 0
Turnips, White, per bunch	-	0 0 4	0 0 8	Sack and Sugar - -	-	0 4 0	0 6 0
Carrots, per bunch - -	-	0 0 6	0 0 8	Quarrenden - - -	-	0 4 0	0 6 0
Red Beet, per dozen - -	-	0 2 6	0 4 0	Baking - - - - -	-	0 2 6	0 4 0
Horseradish, per bundle	-	0 2 6	0 4 0	Pears, per half sieve :			
Radishes, White Turnip, per	-			Jargonelle - - - -	-	0 4 0	0 8 0
bunch - - - - -	-	0 0 2	0 0 3	Windsor - - - - -	-	0 2 0	0 3 0
<i>The Onion Tribe.</i>				Green Chisel - - -	-	0 4 0	0 5 0
Onions, for pickling, per ½ sieve	-	0 2 0	0 3 0	Citron des Carmes -	-	0 4 0	0 5 0
Leeks, per doz. bunches -	-	0 1 0	0 1 6	Peaches, per dozen -	-	0 2 0	0 6 0
Garlic, per pound - - -	-	0 0 6	0 0 8	Nectarines, per dozen	-	0 4 0	0 10 0
Shallots, per pound - -	-	0 0 8	0 0 9	Apricots, per dozen -	-	0 2 0	0 6 0
<i>Asparagus Plants,</i>				Plums :			
<i>Salads, &c.</i>				Dessert { per half sieve -	-	0 5 0	0 8 0
Artichokes, per dozen -	-	0 2 0	0 2 6	{ per punnet - - -	-	0 0 9	0 1 0
Lettuce, per score :				Green Gage, per half sieve	-	0 10 0	0 12 0
Cos - - - - -	-	0 1 6	0 3 0	Wall ditto, per punnet -	-	0 1 6	0 2 6
Cabbage - - - - -	-	0 0 9	0 1 6	Mulberries, per gallon (2			
Celery, per bundle (12 to 15)	-	0 1 6	0 0 0	pottles) - - - - -	-	0 0 6	0 0 8
Small Salads, per punnet -	-	0 0 2	0 0 3	Currants, per half sieve :			
<i>Pot and Sweet Herbs.</i>				White - - - - -	-	0 5 0	0 6 0
Parsley, per half sieve -	-	0 2 6	0 3 0	Red, for wine - - -	-	0 4 0	0 5 0
Tarragon, per dozen bunches	-	0 6 0	0 0 0	for tarts - - - - -	-	0 5 0	0 6 0
Fennel, per dozen bunches -	-	0 2 6	0 0 0	Dessert - - - - -	-	0 6 0	0 7 0
Thyme, per dozen bunches -	-	0 2 6	0 0 0	Pine-apples, per pound -	-	0 4 0	0 6 0
Sage, per dozen bunches -	-	0 2 0	0 3 0	Grapes, Hot-house, per lb. -	-	0 1 6	0 4 0
Mint, per dozen bunches -	-	0 2 0	0 3 0	Melons, per pound - -	-	0 0 6	0 1 0
Peppermint, per doz. bunches	-	0 1 6	0 2 0	Cucumbers { per hundred	-	0 1 0	0 1 3
Marjoram, per dozen bunches	-	0 2 0	0 3 0	Pickling { per thousand	-	0 8 0	0 12 0
Savory, green, per dozen bun.	-	0 2 0	0 3 0	Oranges, per dozen -	-	0 1 6	0 4 0
Basil, green, per doz. bunches	-	0 3 0	0 0 0	Lemons { per dozen -	-	0 1 0	0 2 0
Rosemary, per dozen bunches	-	0 4 0	0 0 0	{ per hundred - - -	-	0 6 0	0 14 0
				Brazil Nuts, per bushel	-	0 14 0	0 16 0
				Barcelona Nuts, per peck	-	0 6 0	0 0 0
				Filberts, per 100 lbs. -	-	1 10 0	2 5 0

Observations.—The continued prevalence of dry and hot weather, during the last month, has had a material influence on the supplies usually furnished at this season; which have become generally scarce, and consequently higher in price. Of peas we have had to this time a good supply; but the later crops have been entirely dried up by the heat of the weather. On all dry soils, in more favourable situations, the crop has been prematurely forced into the market; therefore, but few can now be expected. French beans are also materially affected by the continued dryness of the season: the supply hitherto has been moderately good, but the crops will altogether be a failure. Turnips

are so completely destroyed by the weather as to be quite unfit for use; consequently no demand for them, with little prospect of any supply for the next month or six weeks. Carrots as yet have come to hand very sparingly. The crop is reported to be much injured by the drought; they will consequently be scarce throughout the season. Of potatoes we have had to this time a very good supply; but, in consequence of other vegetables being scarce, there has been considerable demand for them at improved prices. The crop in the northern district, from the prevalence of more moisture, is said to be good; a full supply may be therefore expected; but, as the crop in the home district is small, they will most likely be in demand at an improvement upon last year's prices, which were very low. The market has been tolerably furnished with fruits of all description of excellent qualities. Pears have been plentiful; of course, all the varieties prevalent at this season. Apples are supplied in abundance, but many of them very small, owing to the trees in many districts being much affected by late frosts and blights. Plums are generally a deficient crop; but the market is now tolerably well supplied from France. We have also had an excellent supply of currants from Holland, by steam: they have come to hand in good condition. Peaches and nectarines are tolerably plentiful at present, as well as pine-apples, grapes, and other forced or wall fruits; the prices, as may be observed by the list, being materially influenced by the qualities of the respective articles. Filberts are supplied in large quantities: the crop is reported as being very heavy, the quality excellent, being very free from the grub. Walnuts are a short crop. Grapes upon the open wall will be good from the continued prevalence of fine summer weather: the crop is very great. — *G. C. August 18. 1835.*

ART. VI. Obituary.

DIED, July 28., *William Forsyth, Esq. F.H.S.*, of Nottingham Place, Marylebone, aged 63 years. Mr. Forsyth was the eldest son of the late royal gardener of that name, known as the author of a *Treatise on the Culture and Management of Fruit Trees*, 4to, 1805, the most popular work of the kind in the first ten years of the present century. Mr. Forsyth, lately deceased, was the author of a *Botanical Nomenclator, &c.*, published in 1794, 8vo; but of no other published work that we are aware of. He was chiefly remarkable for having one of the best horticultural libraries that was perhaps ever formed, and for his bibliographical knowledge, more especially in botanical and horticultural literature. He had for many years occupied himself in preparing a *Catalogue Raisonné of Gardening Works*, with biographical notices of their authors; and, had he lived to complete this, it would have formed an interesting chronological and bibliographical history of gardening. Mr. Forsyth had also prepared, some years ago, an *Arboretum Britannicum*, a *Pomarium Britannicum*, and other works which we have seen in MS.; but they have been done so many years, that they are in a great measure obsolete. The only manuscript of value which he has left is his *Catalogue of Authors*; and that, we trust, will be published by his executors.

In the preface to the *Encyclopædia of Gardening*, and also in the historical part of the *Arboretum Britannicum*, we have acknowledged our great obligations to Mr. Forsyth for the use of his library, and for a variety of curious historical information, and corrections of names and dates; and we again desire to acknowledge our obligations to him, at the same time deploring his loss, not only on this account, but as an excellent man, with whom we had been for many years on terms of friendship. Mr. Forsyth was never married, and has left no near relations in England. He was buried in the family vault, in the old burying-ground in the parish of Chelsea.

THE
GARDENER'S MAGAZINE,
OCTOBER, 1835.

ORIGINAL COMMUNICATIONS.

ART. I. *Notes made during a Tour to Chertsey, Woking, Bagshot, Reading, Farnham, Milford, Dorking, and Epsom, between the 12th and 22d of August, 1835.* By the CONDUCTOR.

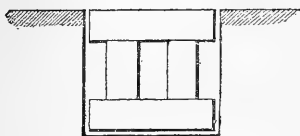
WE interrupt the series of articles on our tour in 1833, to give place to these notes, because some of them are comparatively of immediate interest. The object of our present tour was to examine the trees in the arboretums of the Goldworth Nursery, White Knights, and the Milford Nursery; and to notice such others as fell in our way.

We may observe, here, that it will not be too late during the next three months to send us the dimensions of trees for our *Arboretum*; and that we are just as anxious to receive the dimensions of the common oaks, elms, ashes, sycamores, beeches, &c., of the country, as we are those of foreign trees. We mention this, because, during this excursion, we found some gardeners who thought common trees not of sufficient interest for our work. In order to convince others, who may entertain the same opinion, that this is by no means the case, we shall in a future Number show the use which we intend to make of the Return Papers in the *Arboretum Britannicum*, by inserting a specimen of what we mean to say of the *Magnolia grandiflora*, as being one of the finest of foreign trees; and of the common sycamore, as one of the trees of most frequent occurrence. It will be seen how many more returns we have had of the former tree than of the latter, which we can only account for from the cause mentioned. We shall also show, in another paper (Art. IV.), a simple mode of ascertaining the height of large trees; to all which particulars we are anxious to direct the attention of those

readers who are willing to aid us in rendering our *Arboretum Britannicum* as perfect a work as possible.

At *Syon House*, we were struck with the vigorous appearance of the lime trees in the avenue, owing to the soil being kept moist by the adjoining water. The lime trees not so situated are every where, in this very dry season, losing their leaves; and therefore it ought to be the object of a perfect system of artificial culture and management, to supply water, as well as cultivation by stirring the soil, &c., and giving manure. We have thought of a variety of modes of supplying water to the trees in the arboretum in the Horticultural Society's Garden, during the months of June, July, and August, in every year; and we are convinced that the cheapest and most effectual method would be,

82



to form a series of covered drains, about 6 in. deep, and $2\frac{1}{2}$ in. wide, formed of bricks; as in *fig. 82*. The appearance of the top of the drain would be as in *figs. 83 or 84*.^{*} The upper surface of the bricks, being exposed to the air and weather, would

soon assume a dingy colour, so as to present no eyesore as contrasted with the green turf, and being as perfectly even and smooth as the ground on each side, would offer no obstruction to walking, rolling, or mowing. The drain would be formed without mortar, in order to

83



let the water escape at the bottom and sides, and to admit of taking off the top bricks to clear out any roots of the grasses or trees, or other obstructions which might be formed in it. The chief difficulty in such a system of watering would be, to lay out the drains in such a manner as that every part of the ground should be equally watered. This can only be done by adopting the modes employed in surface irrigation on hill sides; viz. beginning on the highest ground, and winding about, always under a certain degree of steepness, till the lowest ground was reached. The distance between the drains would depend on the porosity or compactness of the soil. The supply of water would, of course, always be given at the highest point. In comparatively level ground, such as that of the

^{*} We shall here make a remark on *figs. 83. and 84.*, for the benefit of young gardeners. Both these figures represent common bricks laid on their flat sides, alternately crosswise, and lengthwise, so as to form a chain, which we may imagine sunk into a lawn, so that the upper sides of the bricks may be exactly level with the surface of the lawn. *Fig. 83.* is drawn with the aid of a square, and a drawing pen; and *fig. 84.* with a common pen, and by the eye, without the aid of rule, compass, or square. Now, the question is, which of these

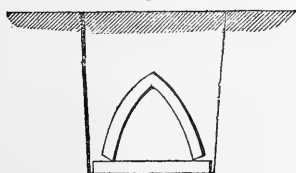
84



Horticultural Society's Garden, there could be no difficulty; and we do not think a plan could be devised for that garden which would be more effective. If the appearance of the bricks were thought to be any deformity, the drain might be sunk 3 in. deeper, and covered with turf; and if the expense were an object, it might be lessened by employing draining or ridge-tiles; and setting them on common flat tiles, and covering the whole with soil and turf, so as not to show any appearance of a drain on the surface, as in *fig. 85*. It must be remembered, however, that, in this case, the drain could not be examined without disturbing the turf; whereas, by the chain of bricks, any one part, or every part, of the drain, might be uncovered and covered again instantly, and without the slightest disfigurement. As to the appearance of such a chain of bricks disfiguring a lawn, instead of doing so, we think it would add to its interest, somewhat

in the same way as the faint appearance of veins does to the living figure. A lawn so intersected would be a higher work

85



of art; more mind would be thrown into it; and, when the use of these drains came to be understood, they would be admired by everybody.

In Ronalds's Nursery we observed a fine stock of forest trees, which we intend soon to examine more in detail. Messrs. Ronalds's printed list

two modes is better? Our answer is, that by the person wholly uninitiated in the art of drawing, and without much culture or imagination, *fig. 83*. will be preferred; because it is the plain straightforward demonstration of the thing represented: but by a person whose taste for drawing has been cultivated, and who possesses some imagination, *fig. 84*. will be preferred; because, as there is no such thing as outlines of objects in nature, that is, no such things as lines apart from bodies, no more use is made in that figure of those means (*viz.* the representing of objects by lines) than is barely necessary to represent them: the rest is left to the imagination. Hence the beauty of slight sketches to an artist, and their comparative worthlessness to those who have not learnt drawing, or studied pictures. The young gardener will learn from this that lines are merely means to an end: they are the means of representing objects on paper without the aid of light and shade or colours; and, in this case as in every other of a like kind, it is in bad taste, or, in other words, contrary to sound sense, to render the means more conspicuous than the end. The young gardener should bear this principle in mind when drawing any kind of plans or views; for it applies to shading and colours, just as much as it does to lines. It also applies to the actual designing and laying out of a garden, which may be altogether disfigured by more walks than are, or appear to be, necessary for showing off its beauties, and more or higher hedges or walls than are necessary for giving it shelter or security.

contains upwards of thirty-five select sorts of *Cratægus*; a genus which deserves particular attention, because it is better adapted than perhaps any other for planting in small suburban gardens; which, as our correspondent Mr. Rutger has shown, in Arts. II. and III., are too often disfigured by trees out of all proportion to them in point of size.

At *Twickenham*, we observed a large medlar tree, some large walnuts, elms, and cedars; and, in the horsechestnut avenue at *Bushy*, a great many very distinct varieties of that tree. At *Shepperton* we missed a large and beautiful catalpa, which used to hang over the road, and be profusely covered with bloom at this season. It had, we suppose, been taken down to widen the road. Near *Sunbury* are some very large narrow-leaved elms, and some good white, English black, and black Italian poplars. In the very moist soil in which they are growing, the English black poplar (*Pópulus nigra*) is so luxuriant in its foliage as almost to appear like the black Italian (*P. monilífera*). May they not be varieties, as we are persuaded half the reputed species of poplars, willows, birches, alders, ashes, elms, and other forest trees, are? Not far from *Chertsey* are some fine Chinese crab trees (*P. spectábilis*), and a magnificent *Ptélea trifoliàta*, at least 30 ft. high, with branches covering a space nearly as much in diameter. Through the whole distance between *London* and *Chertsey*, the difference between the trees growing close to the *Thames*, and those on the high gravelly banks on the north side of the road, was most striking. However frequently we have made the remark before, we cannot help repeating that the most splendid herbaceous plant we saw by the road side was the wild endive: the drier the season, the more splendid are its large blue flowers. This is owing to its taproots running deep into the soil; and it affords a hint to gardeners to introduce a judicious proportion of taprooted plants into flower-gardens and flower-beds; or, rather, we should say, that not only are the colours of flowers, the times of their flowering, &c., to be taken into consideration in making a choice, but their susceptibility of displaying their beauty in different characters of seasons; such as in a wet season, a dry season, a windy one, one more than usually cold, &c. All blue flowers are increased in their intensity by light and heat, and all red ones the contrary.

In the garden of the principal inn at *Chertsey* there is a common hazel growing out of the brick wall, with its foliage much less injured by the dry weather than that of those growing in the common soil: doubtless from its being inured to live with little moisture. The church being situated in the town among other buidings, its exterior would be much improved by a few creepers; and the churchyard is much in want of a few trees and shrubs.

St. Ann's Hill; the Honourable Mrs. Fox. — We found this beautiful place in the best order; no expense being spared in carting water, and in labour, to water not only the herbaceous plants and culinary crops, but also the principal shrubs, and many of the trees. There is a magnificent cedar here, planted by Mrs. Fox forty years ago: it is 50 ft. high; the circumference of the trunk, at one foot from the ground, is 11 ft.; the space covered with the branches is 72 ft. in diameter; and this year it has above 800 cones. There is another cedar, also planted by Mrs. Fox, nearly as high, the branches of which cover a space 75 ft. in diameter, and the trunk of which girths 12 ft. A deciduous cypress, planted by Mrs. Fox thirty-five years ago, is 45 ft. high, and the branches cover a space 35 ft. in diameter. It is a most beautiful tree, with pendent branches sweeping the lawn; and it is now laden with small green cones, resembling a good deal those of the hemlock spruce. There are five other handsome trees of the same kind, none of which, however, bear cones: indeed, with the exception of a tree at Bagshot, and another at Purser's Cross, we are not aware of any other cone-bearing deciduous cypresses in England. We should be glad if our readers would examine all the trees of this kind within their observation, and let us know if they have discovered any.

There are a great many other fine trees at St. Ann's Hill, of all of which we have received the particulars, in a Return Paper carefully filled up by Mr. Tucker, the gardener, who was the inventor of a handsome flower-stand, an engraving of which appeared in one of our early volumes.

Mr. Donald's Arboretum at Goldworth is in a most thriving state; and the pines, firs, cypresses, thorns, and various other genera, are bearing seeds. That noble tree *Araucaria imbricata* has stood out three years without the slightest protection. We were sorry to see the effect of this arboretum much injured by dahlias, madias, and other showy flowers being planted in it. It cannot be too often repeated, that, wherever trees and shrubs are intended to be the principal objects, whether for botanical study, or general effect, the attention of the spectators ought never to be distracted by planting flowers among them. A complete natural arrangement of named herbaceous plants has been formed adjoining the arboretum, since we last visited Mr. Donald; so that his nursery is now an admirable botanical school; and, considering the wild beauty of the surrounding country, and the cheapness of house-rent, Goldworth appears to us to be a most desirable place for a family to retire to during a few summer months. When the Southampton railroad, which passes close to the nursery, is completed, this part of the country will soon afterwards be covered with villas; a purpose for which it is in many respects admirably adapted, having a dry soil, an irre-

gular surface, and extensive prospects, with no large mansions or extensive parks within seven miles. Mr. Donald's nursery was, as usual, in perfect order, and not a weed was to be seen, though the whole force was here, as everywhere else, employed in watering. Mr. Donald is building some additional cottages, to render his workmen comfortable. The walls are hollow, on Silverlock's plan; and about the eighth of an acre is added to each dwelling as a garden. No man is a kinder master than Mr. Donald, and no one can be more beloved and better served by his workmen.

In passing along the common to Bagshot, an immense mound appears at a distance from the road, crossing a valley in which there is neither hedge, house, road, tree, nor ploughed ground. It is a wild part of the heath, which has probably never been touched by man since it was left by the waters of the deluge: there is something grand in seeing this noble mound majestically crossing it in order to carry forward the railroad on the proper level; and one is tempted to speculate on the probability, at some distant time, of the whole globe being covered and penetrated by railroads, at convenient distances, cutting through low hills, and raising banks across shallow valleys; and tunneling mountains, and crossing deep valleys on bridges. The whole continent of North America will probably be the first large portion of the world that will exhibit this state of things; but, if the nations of Europe were but as anxious to make roads and railroads as they once were to make war, we should soon be in advance of our transatlantic brethren.

At Bagshot, among the extensive plantations of Scotch pine and birch, we found many distinct varieties of the latter tree; and here, at Mr. Donald's, and in the Milford Nursery, we had the most decided proofs that *Bétula populifolia* H. K., *B. excélsa* H. K., *B. nìgra* L., *B. péndula* Roth, *B. pubéscens* Ehrh., and *B. álba* L., are all one and the same species. We are confirmed in this opinion by specimens received formerly and now from Mr. Grigor, collected from the seed beds of his nurseries at Elgin, and from the very extensive birch woods of Sluie, in the neighbourhood of Forres in Morayshire.

At Bear Wood we found a number of transplanted oak trees dead of the drought; but in general the plantations looked better than those nearer London.

White Knights we found in excellent order; and we spent two days in examining the trees with Mr. Ward. We were here confirmed in certain opinions respecting the identity of species belonging to the genus *Crataëgus*, which we had entertained from observing the plants in the Horticultural Society's Garden and at Messrs. Loddiges. *C. prunifolia*, *C. híbrida*, *C. arbutifolia*, *C. ovalifolia*, *C. ellíptica*, *C. salicifolia*, *C. spléndens*, and

C. lùcida, are all decidedly mere varieties of *C. Crús-gàlli*. Some of these names, indeed, are mere synonymes. A number of trees, which appear very distinct in their foliage when in a young state in the nurseries, acquire so great a sameness after they have been planted thirty or forty years, as to show that they are mere varieties: this we found to be particularly the case with some varieties of the lime tree, which are certainly very distinct in the Horticultural Society's Garden, but which, at White Knight's, seem all to be included in *Tília europæa parvifolia*, *T. e. grandifolia*, *T. americana*, and *T. a. pubescens*. The smooth and the rough American limes appear to become quite the same after a certain age. The Swedish and British junipers, also, appear here to be decidedly the same. But we should fill the whole Number, if we were to detail all the observations which we made on trees at this place. We shall therefore conclude with one remark, which is, that, as there is no particular arrangement followed in planting the trees at White Knights, it is much to be regretted that those species which grow naturally in damp situations were not placed in the lowest parts of the ground; because, in such a dry season as the present, where peat earth plants occur on rising grounds, they are burnt up: this was particularly the case at White Knights, with the deciduous magnolias, the *Córnus flórida*, and the rhododendrons, azaleas, &c. On the other hand, the marshy ground adjoining of the great pond is planted with the commoner forest trees, and with pines, firs, and junipers, all of which grow best in dry soils. Such errors in the progress of an art are unavoidable; but it is the duty of the rising generation, to turn to account the mistakes of their predecessors. It is also much to be regretted, that the indigenous and common trees at White Knights are not thinned out from among the exotics: for, in a few years, a great number of the latter will be destroyed by them. We have no sympathy with that indiscriminate love of trees which would plant anything and everything, and would cut down nothing; leaving the stronger, which, of course, are the common indigenous sorts, to destroy the more choice ones, which are always the weakest. Whatever is artificial requires the continual superintendence of art.

Farnham Castle; the Lord Bishop of Winchester.— This is a place of very considerable interest. The present bishop, being a scientific botanist, and much attached to gardening, has made great improvements in the grounds about the castle. The old walls, the keep, the ramparts, and other places which formed part of the original fortification, and were, till lately, covered with weeds and bushes, he has converted into ornamental walks, commanding extensive prospects over the town and adjoining country, and bordered with exotic flowers and climbing shrubs. An old kitchen-garden he has turned into a flower-garden, and

made various similar improvements. We found the place in very high order, and the walks just as we could wish them. In the flower-garden near the house were two large evergreen magnolias; one large *M. conspícua*; a bush of green tea, 6 ft. or 8 ft. in diameter, ripening seed; and in the pleasure-grounds, at some distance, were numerous fine specimens of foreign trees and shrubs, planted, it is said, by Mrs. North, the lady of Bishop North, about fifty years ago. Among these we may notice *Acer striatum*, 16 ft. high, a very handsome tree, covered with seed; *A. rubrum*, 50 ft. high; *Staphylèa pinnàta*, 15 ft. high; *Córylus Colúrna*, 50 ft. high; *Cuprèssus thýoides*, 20 ft. high; and various other specimens, the dimensions of all of which have been kindly entered, by the bishop's permission, in our Return Paper, by his gardener, Mr. M'Donald, who took the very greatest pains to measure them correctly. We saw here a female black Italian poplar, one of the seed catkins of which had been broken off prematurely, and stuck in the branches of another tree, where it looked like a mass of insects. On examination, we found it to contain such a quantity of cotton, that we have sent it to Manchester, to ascertain whether it is of a quality that would be worth manufacturing. If it should turn out to be so, the culture of this tree, already so profitable from the immense quantity of timber which it produces in a very few years, will acquire a new interest. The female black Italian poplar is by no means common: we only know of one other specimen, which is in the garden of the London Horticultural Society.

In Farnham Castle, the hall is a large room, the general proportions of which are not bad; but in point of architecture it has no pretensions whatever. There is not even a cornice under the ceiling; and it is lighted by two tiers of windows, a mode of lighting which always suggests to our mind the idea of commonplace composition on the part of the architect. It is seldom, indeed, that the architect has an opportunity of deviating from the usual proportions of windows, and, consequently, from the practice of placing one tier of them over another; and, therefore, when a church, or a large hall like that at Farnham Castle, comes under his pencil, he ought to seize the opportunity of deviating from common practices, and producing something like an external feature which would indicate what was within. This subject never occurs to us without bringing before our mind's eye the Bank of England and the National Gallery at Charing Cross, with their blank windows, introduced, as it were, to imbue these large buildings with a commonplace expression. That the public should bear with the latter building is a proof of the low state of taste for the fine arts among the general mass of society in this country. At the sale of the books and drawings of the late Mr. Nash, there was a design for a National Gallery

at Charing Cross even more commonplace than that which has been erected. It contained three tiers of glazed windows, and eight or ten doors at regular distances; and, in fact, was only distinguishable from a row of street houses by having a central portico and some other columns and cupolas. If these had been removed, it would have been impossible to distinguish the proposed public building from a row of private houses.

Milford Nursery is, like most others, suffering for want of rain; and in it, as in them, the chief business of the workmen at present is watering. There are a great many new things in this nursery which have not yet been figured in British publications, because they will be so, very shortly, in a work preparing by P. B. Webb, Esq., and the botanist M. Brotero. In the meantime, Mr. Penny is preparing a catalogue of the more rare things, which will soon be printed. As our attention was chiefly directed to the trees, we were pleased to see some thousands of young plants of the sessile-fruited oak; and to have ocular demonstration, on a large scale, that this species or variety is, at least in its young state, of much more rapid and robust growth than the stalk-fruited oak; Messrs. Young and Penny having a large compartment of each sort in their nursery placed adjoining each other, on purpose to show the difference between them. The sessile-fruited oak may be tolerably well distinguished from the other, even in its young state and without acorns, from the majority of the leaves being less sinuated, and having longer footstalks. The trees from which the acorns of the sessile-fruited oak were taken by Mr. Young stand at Burningfold, near Dunsfold or Plaistow, in Surrey, and are the property of Mrs. Woods of Shopwick, near Chichester. We understand they are remarkably fine trees, and we are promised their dimensions. The acorns of the sessile-fruited oak being smaller than those of the other sort, no regular gatherer of acorns will ever collect them unless paid an extra price. Hence the great difficulty which those who know the real value of this oak, and wish to grow it, have in procuring its acorns. In our *Arboretum Britannicum* we shall have to bring together a great variety of opinions on the merits of these two species of oaks; and, in the mean time, we invite our readers to send us every kind of information in their power respecting them; and we particularly beg of them to look out for both sessile and stalk-fruited acorns on the same branch of the same tree, and to send us dried specimens if they should find any.

The Arboretum at Milford House has undergone several mutilations since we last saw it; and some of the trees have been lopped in a manner ruinous to their beauty, especially the pines and the oaks. We particularly regret a beautiful tree of *Quercus palustris*, a variety of American oak, different from any

that we have seen elsewhere, except in Mr. Donald's arboretum. It is a light, graceful, rapidly growing tree, with wide-spreading branches, which droop to the ground. We consider it as nothing more than a variety of the species, whatever be its name, to which *Q. rubra*, *coccinea*, *tinctoria*, *macrocarpa*, and half a dozen other specific names in our nurseries, belong. We are perfectly satisfied that, from a bushel of American acorns taken from one tree, all these sorts, and many others, might be obtained. We are happy to find that Messrs. Young and Penny have begun an arboretum, distinct from that at Milford House, in their own nursery; and, as they have abundance of room (above 150 acres), we have no doubt they will form a very complete one. Among the herbaceous plants, we observed that the statice were least affected by the drought. Many of the new sorts are very beautiful, and deserve to be in every good flower-garden.

Among the *nursery practices* which were new to us here, is that of buying in seedling birch trees which have been pulled up out of the copses. These are found to root much better than seedlings of the same age and size taken out of a regular seed-bed; doubtless because, in the latter case, a greater proportion of the taproot requires to be cut off. In the case of the young birches pulled out of the copses, the taproot, which could not get far down into the hard soil, has its substance in a more concentrated form, and is more branchy; hence little requires to be cut off it, except the ragged fibres; and it may be considered as acting as a bulb to the upper part of the plant. The tops of the seedling birches are shortened before planting; and the plants, Mr. Young informs us, make as much wood in one year, as regular nursery-reared birch seedlings will in two. It is found, in this part of the country, that the downy-leaved black-barked seedling birches stole much freer when cut down as coppice wood, than the smooth-leaved white-barked weeping variety. The plum-leaved willow is here grown to a great extent for planting in copses, as also are the common ash and the sweet chestnut.

Pepper Harrow Park, Lord Viscount Midleton, is a very fine place, many points of which reminded us of Broadlands; but the situation of the house, and the terrace walk on the high bank of the river Wey, are here far grander. The house is much too low, and, from being overtopped by the trees, it has but a poor effect. When the advantages of having lofty and well-lighted and ventilated rooms, and particularly lofty kitchens and bedrooms, and when the superior healthfulness of sleeping in a stratum of air considerably elevated above the ground in any given locality, are properly understood, no such mansion as that at Pepper Harrow will be built. There is a singular inconsistency, though it is not a very obvious one, in sleeping for perhaps twelve hours

in an unchanged volume of air, while we think it necessary to have the air in the atmosphere in which we breathe during the other twelve hours of the twenty-four changed continually. Surely this changing of the air must be as necessary during the night as during the day. These observations do not apply more to the house at Pepper Harrow than they do to most other gentlemen's seats, and probably not so much so to it, as they would to many others; but still we make them here as they here arose in our mind, and we think they may be useful. No style of finishing in a room will ever compensate us for the want of ample dimensions.

There are some remarkably fine trees in Pepper Harrow Park, a number of which, with the permission of Lord Midleton, and the assistance of his gardener, Mr. Giddings, we measured and noted down. There are a great many large old cedars, which, however, have chiefly taken the character of bushes. One of these is 73 ft. high; the diameter of the trunk at a foot from the ground is upwards of 6 ft., and of the space covered by its branches, 84 ft. Another is 75 ft. high; the trunk 7 ft. in diameter; and the diameter of the space covered by its branches is 102 ft. A larch lately cut down was 73 ft. high, and 4 ft. in diameter. There are red cedars from 30 ft. to 40 ft. high, and a holly from 65 ft. to 70 ft. high. The sweet-scented crab (*Pyrus coronaria*) thrives remarkably well, and has sown itself in abundance throughout the plantations. There are a liquidambar 50 ft. high, hemlock spruces about the same height, and a *Quercus Phellos* 65 ft. high; Turkey oaks 80 ft. high, bladder nut 35 ft. high, *Cratægus punctata* 33 ft. high; and a number of other large trees, including common oaks, elms, and beeches, which will be found duly registered in our *Arboretum Britannicum*. The kitchen-garden and flower-garden we found in excellent order, and all the crops good. The pines were particularly so; and also the grapes. In the pinery, four very large plants of *Gloriosa superba* were in seed; and some other ornamental plants were very finely grown. The system of watering practised in the kitchen-gardens here is worthy of notice. There are tanks distributed over the gardens, communicating with one another and with a head reservoir of liquid manure at the stables, and another near it of clean water, in such a manner as that every tank can be filled either with pure water, or liquid manure, or with a mixture of these, at pleasure. The pond at the stable, and the supply of pure water, are at the highest points, and all the tanks are on somewhat lower levels. The communication between the tanks is by underground pipes. From each tank, the water or liquid manure is either taken out with watering-pots, and distributed in the usual manner, or it is raised by a portable pump into a gutter formed of loose tiles, whence it is distributed over

the surface of the garden in the manner done in irrigating grass lands. Two peach borders, extending along two sides of the garden, were in the act of being watered in this manner while we were there. We cannot help remarking here on the order and neatness which we observed in the walks, the edgings, the lawn, the back sheds, and, indeed, in every part of what was under the care of Mr. Giddings.

Donald and Westland's Nursery, at Dorking, is, as usual, in high order, and stocked brimful of good things. We were much struck with a magnificent plant of *Erythrina Crista galli*, with the collection of dahlias, and with that fine plant *Ceanòthus azùreus*, which here, and in all the nurseries that we have visited since we left London, forms a beautiful hardy shrub, flowering the whole summer. Mr. Westland has built some additional houses since we were last at Dorking, and has heated them in Kewley's manner. In one of these he grows pines and grapes, and the other is devoted to heaths.

Deepdene is suffering from drought; but still it is a delightful place. We were sorry to hear that certain alterations are proposed in the house and grounds, which, if we understand them rightly, will so far alter the character of the place as to render it no longer the work of the late Mr. Hope. We care little about what may be done to the interior of the house, but we think every part of the exterior ought to be held sacred to the memory of the great and excellent man, the impress of whose mind it bears. The situation of the house precludes it from ever being made better than what it is; and, if it is thought objectionable in its present state, it appears to us that it would be much better to build another than to attempt to alter it; preserving the present one as a temple of *virtù*, and rendering it a depository of sculpture, architectural antiquities, paintings, and books. There must surely be many fine sites on an estate naturally so varied in surface, and now rendered so extensive by the addition of that of Betchworth Castle. The rooms in the present house at Deepdene are mostly low, and never can be rendered magnificent by increasing their length or area: a low room is only made worse by rendering it longer. Mr. Wood has raised a fine new dahlia, which he has named the Viscountess Beresford, and of which a notice will be found elsewhere. The Horticultural Society at Dorking is, we are happy to learn, in a most prosperous state.

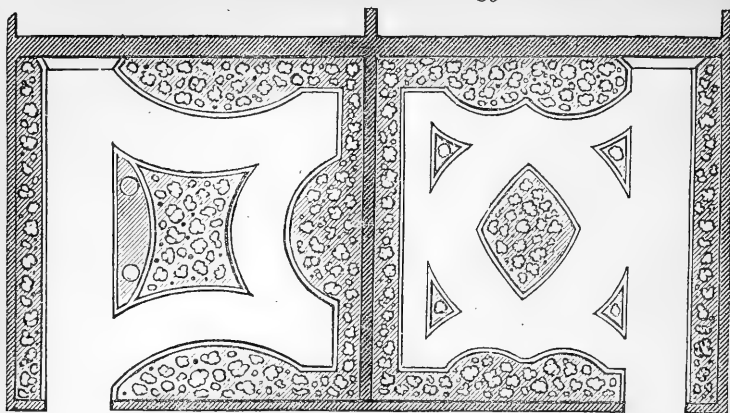
The Epsom Nursery we found in the very highest order; and we certainly think we never saw the plants before so finely grown. Nowhere, that we know of, are such plants as *Clíánthus puníceus*, *Deùtzia scàbra*, *Benthàmia fragífera*, *Bérberis Aquifólium*, and various others, equally rare and beautiful, to be had by the hundred, except at Epsom. The collection of spe-

cimens of climbing roses is beyond all praise. Among the collection of cratæguses, we found three sorts raised from seeds, which are new.

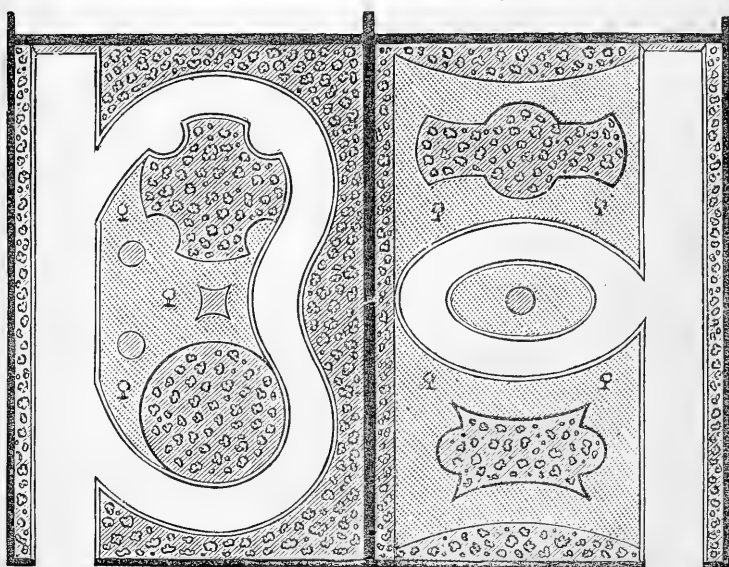
Before concluding these hurried notes, we may observe, that in most of the gardens which we visited, but not in all of them, the practice of watering was continued after the usual hours of working. This appears fair and reasonable to a certain extent; that is, occasionally, under unexpected circumstances; for example, in times of unusual drought, when there have been many interruptions during the day, &c.; but we cannot think it either just or humane to keep men watering, or doing any description of work regularly, after six o'clock till it is dark, as is done in some places, without any additional payment. Every man ought to have a period in every day to which he can look forward as his time of relaxation, and during which he shall be entire master of his time and his pursuits. This is essential to human happiness; and, for young men endeavouring to acquire the profession of a gardener, not only is all the time before six o'clock in the morning, and after six o'clock in the evening, necessary, to admit of the proper extent of reading and botanising; but, so extensive has gardening now become, and so various are the acquirements expected from first-rate gardeners, that two additional hours would require to be added to the time of relaxation of each day, to enable a gardener to learn all that may be required from him. It depends upon the enlightenment of the working classes, whether or not, in a few years, this will be the case; and whether, during summer, instead of journeymen gardeners having one hour for the mid-day meal, three will be allowed. Of what use are all the various improvements made in machinery, if they do not end in abridging the daily hours now devoted to manual labour?

ART. II. *A Series of Designs for laying out Suburban Gardens and Grounds, from One Perch to several Acres in extent.* By Mr. T. RUTGER. Design 1. *Frontages of Four Houses, containing One Perch each.* Design 2. *Frontages of Four Houses, containing One Perch and a Half each.*

THE series of designs which I propose for your acceptance will consist of what may be termed "designs for suburban gardens," and such as, perhaps, may be useful to some who may be about to commence the laying out of gardens to the extent of any of the designs that this series will embrace. I have begun at a low scale, namely, that of mere frontages to houses that are attached or joined together; the first of which consists of four frontages, of one perch of ground to each; and the second also

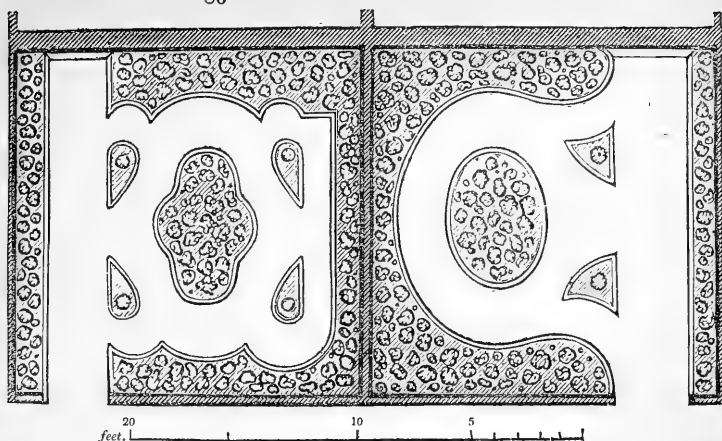


of four frontages, consisting of about one perch and a half to each. The ground to these being of small dimensions, there is not room for much display of taste and variety ; but it may not



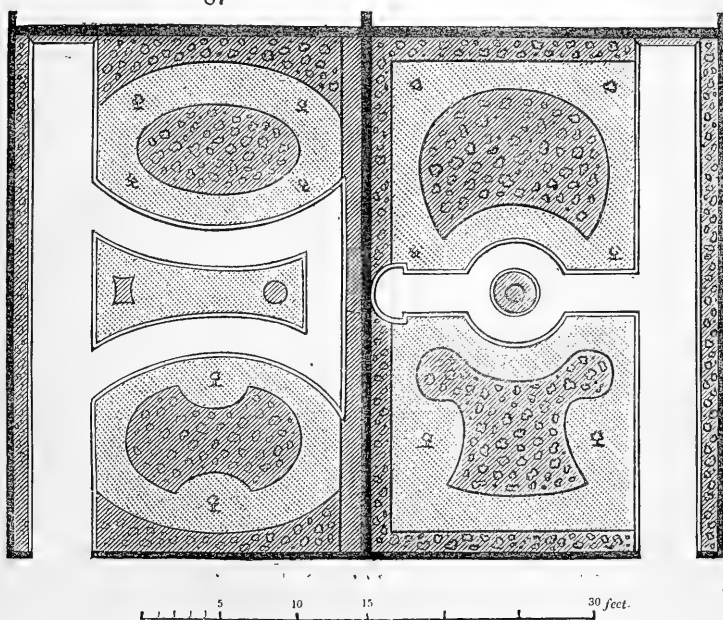
be amiss to offer a few hints upon them : and, first, with regard to the walks : — these I should prefer being laid down with stone, with neat kerbs, about 2 in. high, at the sides ; and, where there are clumps that do not join the walks, as in design No. 2. (*fig.* 87.), I should prefer them to be surrounded with grass rather than

86



gravel, as I consider the latter to be in bad taste, though it is frequently employed in the vicinity of the metropolis.

87



With regard to the plants and shrubs proper for gardens of this description, I should recommend their maximum of growth to be in proportion to their situation, as by this means a greater

variety may be introduced. I have seen instances where a single tree has overshadowed nearly a whole garden of this description, and thus rendered void the possibility of any thing else growing therein. I would recommend, also, that the partition fences of the frontages, of whatever material they may be constructed, should not exceed the height of 6 ft., in order that as free a circulation of air as possible may take place, as this is highly necessary for the health of the plants, and particularly in situations of this kind, where, under the most favourable circumstances, they will be much confined. With regard to the choice of shrubs, I should introduce as great a variety of evergreens as possible, of those kinds which, from observation, I have seen to succeed; an enumeration of which, including also deciduous shrubs and flowers, would be very acceptable from any of your correspondents who have had experience in the management of suburban gardens. Among the common evergreens that appear to flourish in these situations, I have noticed the common and variegated hollies, the common box tree, the Chinese arbor vitæ, the *Aucuba japonica*, the red cedar, the evergreen privet, and the giant ivy. The latter of these (the ivy) which grows luxuriantly in most situations, might not only be used to cover walls and fences, but might be trained up in pyramids, or in any other form which taste might point out, by having a framework fixed in the ground for training it to; and if jasmine, clematis, or some other light climbers, were intermixed with the ivy, they would, I think, give a relief, and, at the same time, add to its beauties during the summer months. As it respects deciduous trees and shrubs, I should make use of the lightest and handsomest flowering kinds that would thrive, and such as, by an occasional and judicious pruning, might be kept within bounds. Decorations might also be introduced upon a limited scale, consisting of ornamental vases and other tasteful designs, which are to be seen in profusion at Austin's manufactory of artificial stone, in the New Road.

In these designs, there will be, occasionally, places pointed out where decorations of this kind may be introduced; but they are not intended to be arbitrary, as I would rather leave this to the taste and fancy of those who may be inclined to bring any of the designs into operation. In designs No. 1. (*fig.* 86.) and No. 2. (*fig.* 87.), the small circles indicate the situations for decorations of this kind; and they are meant to be elevated on a plinth, or basement, of stone, to the height necessary, according to the nature of the articles made use of.

SINCE writing the above, I have had opportunities of making further observations as to the extent that evergreens are made use of in the suburban gardens of the metropolis; and I have been much gratified by observing them to be introduced freely

in the frontages and small gardens in the neighbourhood of Brompton, where they are thriving to the extent desired, and where they add much beauty to the places in which they are introduced. In these gardens, both the common and Portugal laurels are made use of to advantage, as well as several other evergreens not mentioned above.

I should advise all persons who are about to lay out and plant frontages and small shrubbery gardens in the immediate vicinity of the metropolis, first to inspect the nurseries that are situated very close to town; for instance, those about Sloane Street, Brompton, and the New Road, &c., and then to make a selection of such evergreen and deciduous trees and shrubs as appear to thrive in them, and which may, at the same time, be thought eligible for the situations where they are to be planted.

Portland Place, August, 1835.

ART. III. *Some Remarks on the Suburban Gardens of the Metropolis, and on the Mode of laying out and planting the Public Squares.*
By Mr. T. RUTGER.

I FEEL inclined to lay before you some observations on the defects, as I conceive them to be, in the suburban gardens of the metropolis; but which, perhaps, may more particularly apply to the frontages of houses in its immediate vicinity.

In the first place, in the choice which is frequently made of forest trees for the purpose of embellishment, I conceive there is a great error; as they bear no proportion to the situations in which they are placed. Could London boast of its boulevards, like some of the cities on the Continent, I should rejoice to see trees of this description planted in lines, which, while they gave beauty, would also afford an agreeable shade to the pedestrians during the hot days of summer; but, planted, as they frequently are, in small gardens consisting only of a few perches of ground, they must either be curtailed by frequent mutilations, or be left to usurp the whole of the contracted space, to the exclusion of such species as would be more in accordance, in regard to size, with the sites on which they stand.*

* The subject of adapting the sizes of trees to the extent of the grounds in which they are to be placed, is one, as Mr. Rutger truly observes, which is very generally neglected, notwithstanding its great importance. Almost every one who plants a garden of a few perches, in the neighbourhood of London, finds, in eight or ten years afterwards, that a few of the coarser trees have attained to such a size as to smother everything else, and to render it altogether impossible either to have smooth green turf, or healthy flowers, the two grand objects for which suburban gardens are desired. For this reason, in our *Arboretum Britannicum*, we have been careful to select and figure as many

The second thing I will advert to is, the scarcity of evergreens, which is apparent in very many places round the metropolis: take, for instance, the line of the New Road from Paddington to Islington, in many of the frontages of which line not a single evergreen is to be found. Perhaps I may be told that evergreens thrive but badly in these situations; and if this has been proved, I must, of course, succumb; but, if otherwise, it is much to be regretted that they have been so sparingly made use of; as, throughout the winter season, they would give a liveliness to the scene, and compensate, in some measure, for the loss of the foliage of the deciduous kinds. In fact, it is my opinion, that evergreens ought to preponderate considerably in situations of this kind; and, if a few of the variegated sorts were judiciously sprinkled among them, they would add much in giving variety to the whole, particularly in the winter. Were I to plant out a line of frontages, I should do all in my power to encourage the growth of evergreens, in all the variety possible, of the sorts I might hope would succeed; and I should be careful to plant no deciduous tree of a heavy foliage to overshadow them. With respect to the deciduous kinds, I should make choice of the most light, ornamental, and flowering ones; and so dispose of them as that, when grown up, they should just be seen among and through the interstices of the evergreens, in such a way as to display their flowers to the eye of the passenger.

In the third place, I beg to notice the very bad taste that is frequently displayed in suffering gravel to come in contact with paved walks. I have already advocated the laying down of paved walks (p. 434.), and still feel disposed to do so, having more particularly noticed them since. In some instances, I have observed the walk from the entrance gate to the house only paved, and the small walks, on the sides, laid down with

small trees as we could; such as different species of *Cratæ'gus*, *Pýrus*, *Prúnus*, *Cérasus*, *Amelá'nychier*, *Cotoneá'ster*, *Cý'tisus*, *Rhám'nus*, &c., which are, at the same time, trees having showy flowers and fruits. There are upwards of forty very distinct sorts of *Cratæ'gus*, every one of which forms a most picturesque small tree, which grows rapidly till it attains the height of 10 ft. or 12 ft., and then becomes comparatively stationary for many years, flowering and fruiting abundantly every year. This is exactly the sort of tree suitable for a suburban garden; more especially when we consider its four seasons of preeminent beauty; viz. the budding season, in March and April; the flowering season, in May and June; the fruiting season, in September; and the autumnal colouring of the leaf in October and November. The leaves of some of the *cratæguses*, such as *C. trilobà'ta*, *apiifò'lia mājor*, *flà'va*, &c., die off of a blood-red colour; and others, such as *purpù'rea*, *altà'ica*, &c., of a purple so dark as to approach to black. We have figured both the tree and the botanical specimens of upwards of thirty species; and of leaves, we have figured upwards of fifty sorts; so that we hope this most desirable genus of small trees will no longer be neglected in the manner it has hitherto been, in the planting of suburban gardens and public squares.—*Cond.*

gravel. This may be tolerated; but the effect would be much better were the walks all of pavement. My greatest objection, however, to walks partly paved and partly in gravel, arises from observing, in many instances, small clumps placed in the midst of gravel all round, and the gravel brought into contact with the straight-paved walk; than which nothing, in my opinion, can be less in accordance with good taste, and instead of which grass would have an infinitely better appearance.

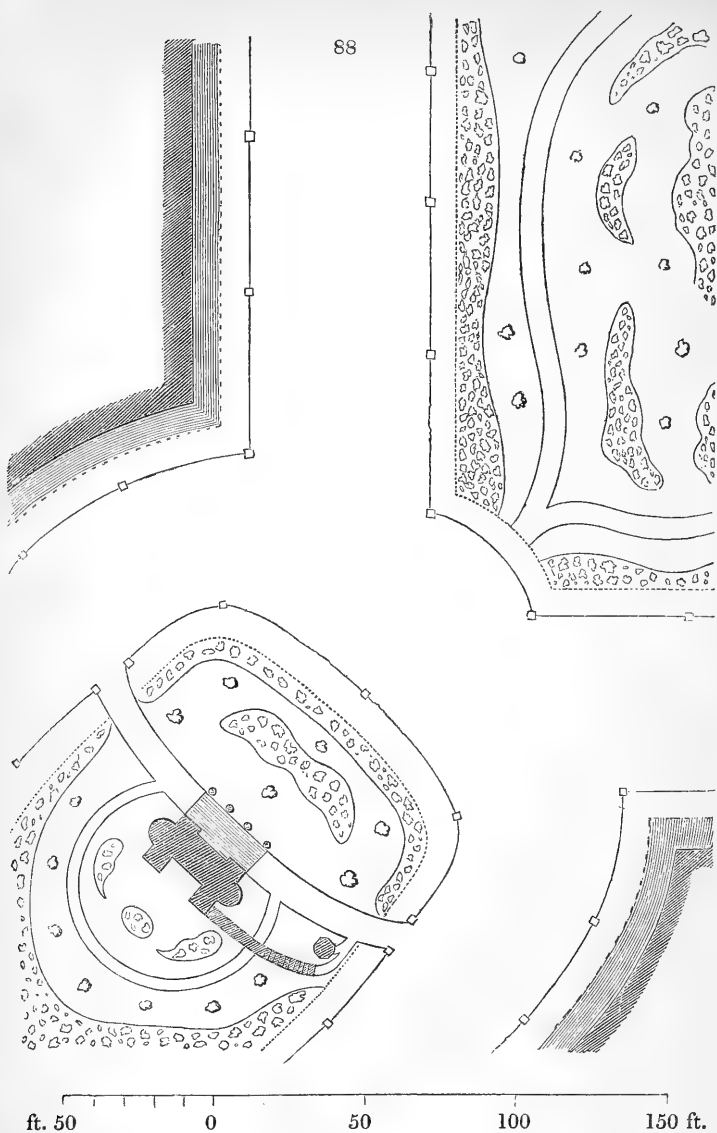
In looking into the squares of the metropolis, the same scarcity of evergreens appears as in the places above referred to; and were a person of taste and judgment employed to make them what they ought to be, I think he would see enough to find fault with, and a good deal to mend; for instance, what can be worse than the clipped thorn hedges which form the internal boundaries of some of them? what can possibly look more dreary during the winter than these? Any thing like an evergreen would be far better. I perceive that privet (I suppose the evergreen) is introduced into some of them; but this, as a clipped hedge, I cannot admire: nor, indeed, is a hedge of any kind, in my opinion to be admired; a broken kind of outline formed of evergreens would, I think, be far better.

The utility of squares, by their admitting of a more free circulation of air, is apparent; and it will, I think, be universally allowed that they cannot be too greatly multiplied in the metropolis: indeed, its dense and increasing population demands that every possible measure should be adopted to render it as salubrious as circumstances will admit of.

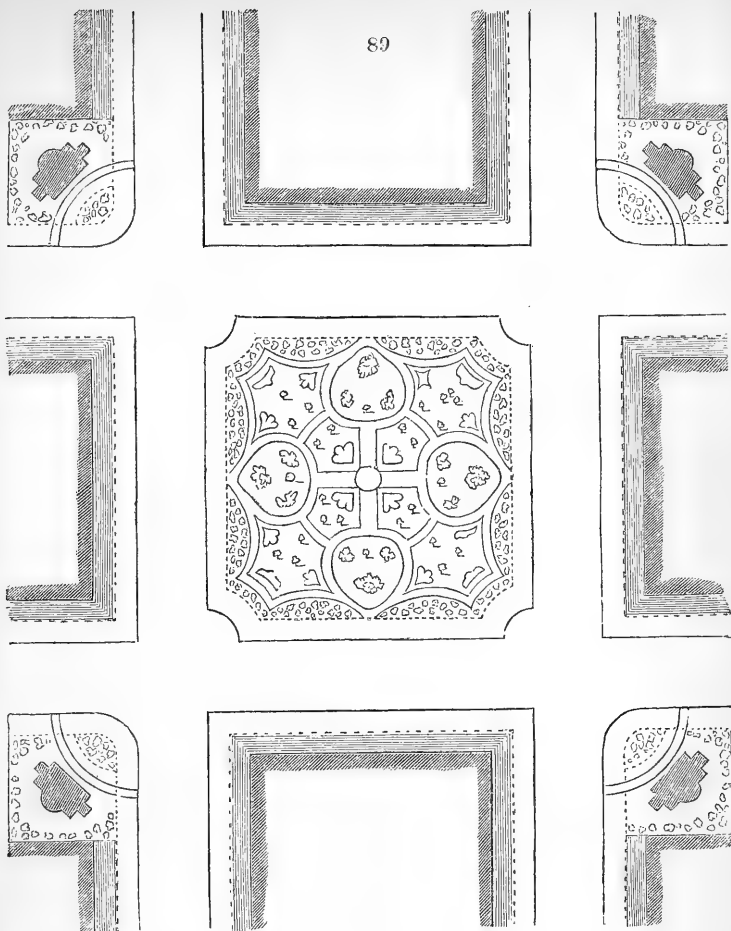
In the formation of squares, the placing of a detached house and small garden at the corners, I consider as a great improvement, not only in regard to appearance, but also as it respects the admission of a more free circulation of air. Montagu House, Portman Square, presents an instance of the kind I allude to; and at the south-west corner of Belgrave Square is another, of which the sketch *fig. 88.* may give some idea; although it is not intended as an exact plan, but merely to carry out the idea, in case it might be thought proper to adopt it in other places. There is a colonnade at the front of the house in Belgrave Square wide enough to admit a carriage; and close to a small lodge, at the entrance, is a flight of steps leading to a subterraneous passage, which communicates with the servants' offices, the advantages of which are obvious.

The sketch *fig. 89.* is a square with detached houses at the corners, which I have given, to fully develop the idea above alluded to. The dark strokes show the lines of the buildings, and the shaded parts the areas, outside of which are pavements: there is a pavement, also, round the square.

When statues, or erections of any kind, are placed in squares,



they should always bear some proportion to the site on which they stand, so as to form a prominent feature therein. Many of the statues in the metropolis are, in my opinion, not sufficiently elevated, and the statues, in themselves, are too small to give the desired effect, and the effect which they would give were they of larger dimensions : for instance, the statue of the Duke of Kent,



ft. 50 0 50 150 250 350 ft.

in Park Square, at the top of Portland Place, is nearly lost, through its not being in proportion to the site on which it stands: indeed, this is a situation in which something bold and imposing should be placed, in order to correspond with the buildings around, and to make a handsome termination to the street; and also, in some measure, to correspond with the Duke of York's pillar, in Carlton Place.

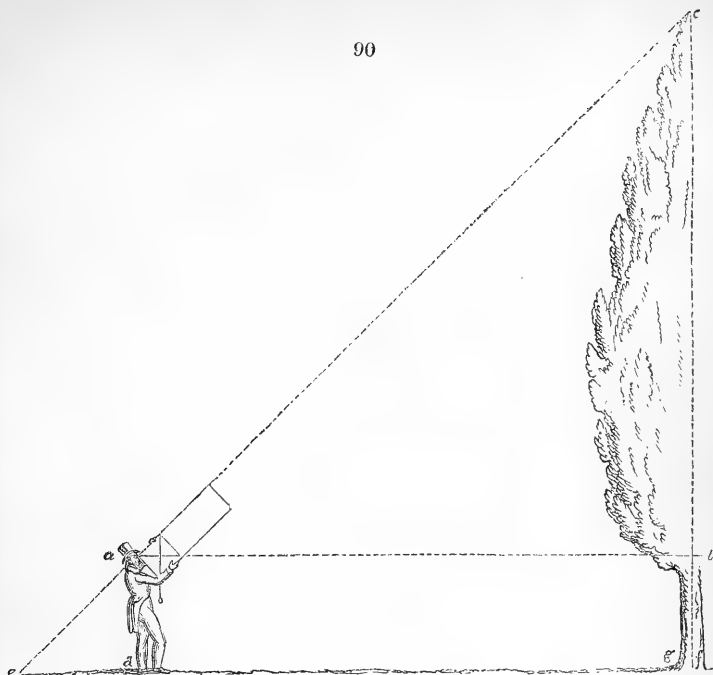
Portland Place, Aug. 1835.

ART. IV. *Simple and expeditious Modes of ascertaining the Heights of Trees.* By the CONDUCTOR and by RICHARD VARDEN, Esq.

WE intend, at present, to speak only of measuring trees for the purpose of ascertaining their heights, and the diameters of their trunks at a foot from the ground, to enable our friends as easily as possible to send us these dimensions, as requested in our Return Papers.

Trees are either crowded together, or standing singly, or so as to be clear from other trees on at least one side. In the former case, they are best measured by sending up jointed rods, formed of deal, or any other light wood. First one rod (say 5 ft. or 10 ft. in length, and half an inch in diameter) is pushed up the side of the trunk, and held there by the left hand; and a piece of tin tube, about 4 in. in length, and of the same diameter in the clear, as the rod is put on the lower end of it about 2 in. One end of this tube being firm on the rod which is held up alongside the trunk, with the left hand insert another rod in the other end of the tube with the right hand, and so on, till you have pushed the jointed rod so formed to the top of the tree. Then take it down, and count the number of rods, &c., putting each piece of tin tube, as it is taken off, in your pocket. This may seem a tedious operation; but a man and a boy, with 15 rods, and 14 pieces of tin tubing, will measure more than 100 trees in a day.

When trees either stand singly, or are open on one or more sides, their heights are taken with the greatest accuracy and expedition by looking up to them at an angle of 45° ; or, in other words, placing the tree in the side of an imaginary square, and looking at it along the diagonal line of that square. A square for this purpose any gardener may form for himself out of a piece of pasteboard, or a thin deal board: he may either form the square, and cut it off from a board; or he may form it on the end of a board having a straight edge, as in *fig. 90*. In either case, a line and plummet must be suspended from one angle of the square; and the operator has only to place himself at such a distance from the tree, that, when he sees the top of it, the line may be exactly in the direction of the diagonal of the square, as in the figure. It would be a waste of words to explain what must be perfectly obvious by mere inspection of the figure, even to those who have not (like most gardeners) acquired a smattering of geometry; viz. that the line *a b* is equal in length to the line *b c*; and that the correct height of the tree will be obtained by adding to it the height of the operator's eye from the ground, and half the diameter of the trunk of the tree at the ground's surface; in other words, by adding to the line *a b*, the line *a d* or *d e* (which are both of the same length as *b f*), as also half



the diameter of the tree, or the line fg . This is an operation which we have seen an expert practitioner perform in two minutes; but we may allow, at an average, ten minutes to each tree.

The height of single trees may also be taken with expedition during bright sunshine by their shadows. Set up a rod, say of 6 ft. in height above the surface, and measure its shadow; then measure the tree's shadow, and find the height by the Rule of Three.

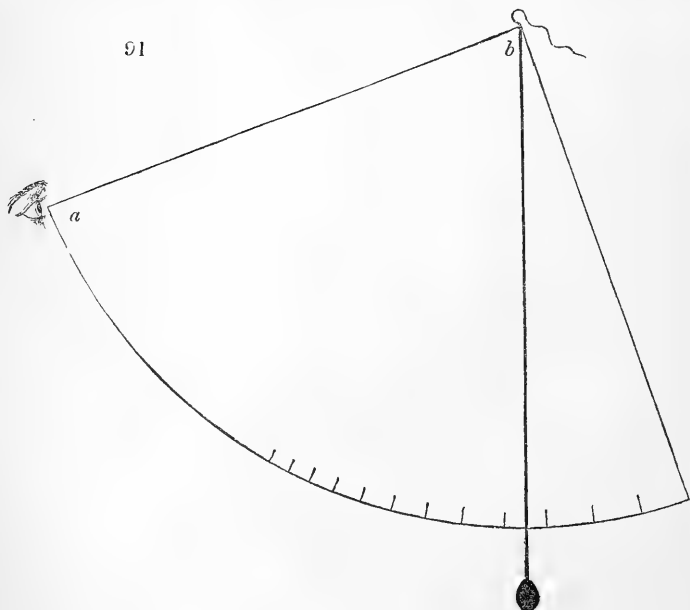
For both the last modes the tree must stand on level ground, otherwise additional observations must be taken, which it would occupy too much space to explain here. The reader will find this done in an excellent paper by Mr. Gorrie, on measuring trees, in Vol. II. p. 8. When single trees are on a sloping bank, their height may be taken by the square, by looking at them across the slope, that is, by looking at them on a horizontal plane. By rods, of course, their height may always be taken in whatever way they are situated.

The diameter of the trunk of a tree may be readily taken by girding the tree with a string, one third of the length of which will give the diameter; or the tree may be measured with a rod, having a piece fixed to it at right angles at one end, and a sliding

piece like a shoemaker's measuring rule. An ingenious instrument of this sort has been invented by Mr. Blackadder of Glamis, in Forfarshire; and it has been in use by him many years. He has kindly promised us a paper on the subject of measuring trees, with a view to the ascertaining of the quantity of the timber they contain; with which, knowing Mr. Blackadder's ingenuity, general knowledge, and extensive experience, we are sure our readers will be much gratified.

SINCE the foregoing article was sent to press, we have received the following communication on the subject from our ingenious friend Richard Varden, Esq., well known to the readers of our *Encyclopædia of Architecture* and *Architectural Magazine*, and now established as an architect and landscape-gardener in the city of Worcester.

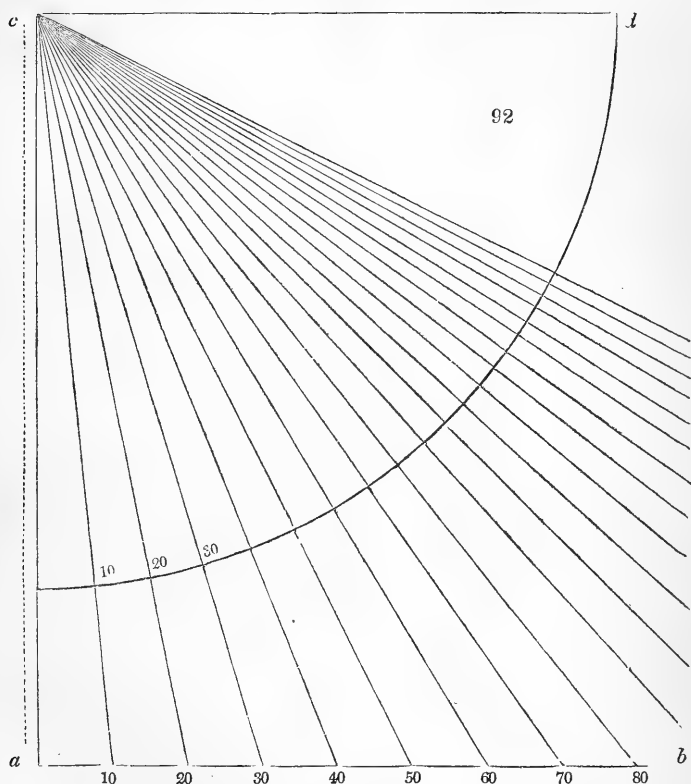
“ There is a small instrument, which I have employed for ascertaining the heights of trees, that I think might be useful to the contributors to your *Arboretum Britannicum*, as it would enable them to fill up the third column of your Return Paper with greater ease than by measuring with rods. This instrument is a modification of a quadrant or sextant, and it is graduated



on a principle which I shall presently explain. It is made of a piece of thin board of the form shown in *fig. 91.*, graduated in feet on the lower edge, or circumference, and with a line and

plummet suspended from the apex, or centre, of the quadrant. In using it, the operator must first measure a distance of 100 feet from the tree, and then, taking the quadrant in his hand, apply it to his eye, and look along the edge (*a b*) to the summit of the tree. The plumb-line will cut the graduated edge at the exact number of feet that the tree is high. The operator must then add the height of his eye from the ground (say about 5 ft.); and he must also notice whether the ground rises or falls towards the tree, and make allowance accordingly.

With respect to the principle on which the quadrant is graduated, it will be easily understood by inspecting *fig. 92*.

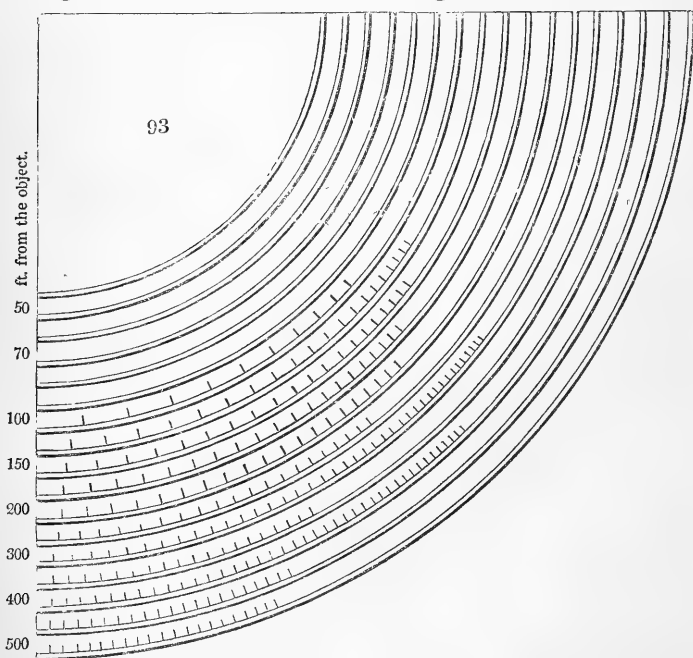


At the beginning of a scale of feet (*a b*) erect the perpendicular line *a c* of a length equal to the distance the station is intended to be from the object viewed. Upon this perpendicular line describe a quadrant, taking the extremity *c* for the centre. Then lines, drawn from each division of the scale of feet (*a b*) to the centre (*c*), will form, where they cut the circumference of the quadrant, the graduated scale required; each part of which must

be figured to correspond with its place on the original scale of feet. The centre of the quadrant (*c*) is the point the plummet is to be suspended from; and (*d c*) is the edge to be brought in a line with the object the height of which is required. In the diagram I have imagined a base line of 100 feet, as I think that a distance which will be generally suitable; but each person can arrange that distance according to his own ideas.

Should it happen that the object cannot be seen from a station at the distance of 100 feet, go twice as far off; take the height as before, and double the figuring on the graduated scale; or, if more convenient, go in to half the distance, and then halve the figuring. In either case the result will be correct.

A quadrant thus arranged will only be available for the above-mentioned stations; but a series of concentric scales can be formed on the same quadrant, arranged for other stations at various distances from the object; and this will in no way interfere with the simplicity of the instrument, though it will make it applicable to nearly every possible case or situation. *Fig. 93.* is a rough sketch of a quadrant so arranged.



I have never either seen or heard of this instrument having been made or used by any one but myself; but it is so simple, that it is very likely that it has been thought of and acted on before. — *Richard Varden. Worcester, September 7. 1835.*

ART. V. *Floricultural and Botanical Notices of newly introduced Plants, and of Plants of Interest previously in our Gardens, supplementary to the latest Editions of the "Encyclopædia of Plants," and of the "Hortus Britannicus."*

Curtis's Botanical Magazine; in monthly numbers, each containing eight plates; 3s. 6d. coloured, 3s. plain. Edited by Dr. Hooker, King's Professor of Botany in the University of Glasgow.

Edwards's Botanical Register; in monthly numbers, each containing eight plates; 4s. coloured, 3s. plain. Edited by Dr. Lindley, Professor of Botany in the London University.

Sweet's British Flower-Garden; in monthly numbers, each containing four plates; 3s. coloured, 2s. 3d. plain. Edited by David Don, Esq., Librarian to the Linnæan Society.

A NOTICE which has a general Relation to Floriculture. — Dr. Lindley has presented, in the *Botanical Register*, the number for September, 1835, the following notice: — "There are no plants more general favourites among collectors than the species of . . . *Ericææ*. . . It is, however, very remarkable, that, notwithstanding the extensive commerce of England, the zeal of her merchants, and the enterprise of individuals, some of the most magnificent of these plants are still known to Europeans only from the dried specimens in the herbariums of botanists. We allude to the noble genus *Befaria*, which contains many species more beautiful than even *Rhododendron* and *Azalea*; to the *Thibaudias*, with their long tubular crimson blossoms; and to many species of *Gaylussaccia*. The finest of these plants inhabit the Cordilleras of Peru, in the country of the *Cinchonas*; and, certainly, if one half the sum that has been sometimes wasted in ill-considered undertakings were applied judiciously to an expedition into this region, there would be no reasonable doubt of success, and the results would be indescribably important. We should be glad to explain our views more in detail to any one who might be disposed to engage in such an undertaking; and we cannot help anticipating that the project will be seriously entertained by some of those liberal and wealthy nobles who are indeed becoming the *Mæcenates* of natural history in Great Britain. We have been led to these remarks by the examination of a collection of dried specimens lately sent from the *Cinchona* country by Mr. Mathews, in which we find a larger number of very beautiful plants than we ever have had the good fortune to examine in any collection of similar extent. Among other things, there is a most lovely plant, which constitutes a new genus related to *Thibaudia*, and which, as it cannot fail before many years to find its way in a living state to England, we have named, in compliment to one of the most liberal of those patrons of science whose noble actions render them the

pride of their country, as well as the surest pillars of their own high hereditary order. The name of Cavendish has long since been enrolled even in the ranks of practical science: but it shines forth, in these latter days, with renewed lustre in the person of His Grace the present Duke of Devonshire, whose noble residence at Chatsworth is rapidly becoming, by the good taste and munificence of its present proprietor, as remarkable for richness in objects of botanical importance as it has long been admirable for its extent and princely magnificence." Dr. Lindley has added a description of the characteristics of the plant, and has named it *Cavendishia nobilis*. It is a shrub with laurel-like leaves, and its flowers are arranged in capitate racemes, mostly terminal. "The corolla is bright crimson and tubular, about an inch long."


EMBRYO DICOTYLEDONOUS: COROLLA POLYPETALOUS, OR NOT PRESENT.

XXIV. *Malvaceæ*.

2023. *SIDA*.
inæqualis Lk. & O. *unequally-based-leafed*  or 6½ my W Brazil? 1829 C l.p. Bot. [mag. 3436
 Its affinity among the species is not stated; but Spreng. Syst. is cited, where it may be shown.
 Received at the Edinburgh Royal Botanic Garden, named *Sida inæqualifolia*, from the Berlin Botanic Garden.

The figure and description are from a plant in the stove of the Edinburgh Royal Botanic Garden. This plant is a slender upright shrub, nearly 7 ft. high, bearing pubescent leaves that have footstalks 1 in. to 2 in. long, and cordate-acuminate disks that are from 4 in. to 7 in. long, and from 2 in. to 3 in. broad, are crenulate, slightly undulate, bright green and shining above, paler and without lustre below, white below when young, then somewhat rusty, "an appearance [? appearances] of which scarcely a trace remains in the adult leaves." A flower and a flower-bud are shown at the tip of a branch. "Peduncles about 2 in. long, . . . corolla 1½ in. long, and, when fully expanded, 2 in. across, white, campanulate, . . . stamens and styles equal [in height] to the height of the petals;" anthers yellow, and in their number sufficient to produce a mass of yellow that centres the mouth of the white corolla. (*Bot. Mag.*, Sept.)

LXXVII. *Leguminosæ*.

2144. *KENNEDYA*.
 19380a *Marryattæ* Lindl. Mrs. Marryatt's  or 4 ap to jl S [1834 C S s.p. Bot. reg. 1790
 Australia, Swan River Colony


Compared with *K. prostrata*, "it is much larger in all its parts, and very much more hairy; in fact, its young leaves and stems are perfectly shaggy. The leaflets are larger, far more wavy, and shorter than their stalk. The flowers grow about four in a cluster, instead of two, or being altogether solitary." "It flowers abundantly from April to July, producing a striking appearance with its numerous scarlet blossoms. . . . Our first specimens were communicated by Mrs. Marryatt: we afterwards received others from the garden of Mr. Robert Mangles." Sir

James Stirling had sent seeds of this species from the Swan River colony. "It is easily propagated by cuttings." (*Bot. Reg.*, Sept.)

2136. *LA'THYRUS*. [blue Brazil 1834 or earlier S s.1
19287a *Armitageanus* West Birm. Bot. and Hort. Soc. Mr. Armitage's 藥 —? or 6? my.jl Purple-

In Aris's *Birmingham Gazette* of May 18. 1835 is a description of some of the botanical characteristics of a species of *Oxalis*, and a species of *Láthyrus*, which had "lately been discovered" in "the collection" of the Birmingham Botanical and Horticultural Society, and had been deemed "two new species;" that is, two species whose existence had not been made known by the publication of the characteristics of them. In the same place, these species are denominated "*Oxalis Darwalliana*, West. Birm. Bot. and Hort. Soc.," and "*Lathyrus Armitageanus*, West. Birm. Bot. and Hort. Soc." . . . "They have been named after the late lamented Secretary, Dr. Darwall, and the Treasurer, the late Mr. Armitage, both of whom were devotedly attached to the science of botany, and with whom the Society may be said to have originated." The abbreviated words placed after the specific epithets can only be understood to imply that the application of these two specific epithets to these two kinds of plants is by, or for, the West Birmingham Botanical and Horticultural Society. The word "West" is, we have learned, used to distinguish this Society from another extant in Birmingham, which pursues kindred objects. It is the West Society that has the botanical and horticultural garden.

Láthyrus Armitageanus. We have collected that information on the features and habits of this plant, which the tabular lines above and what we have now to present include, from the description given in Aris's *Gazette*, where part of it is expressed in Latin, and from a correspondent's incidental communication to us on the subject. — A shrub. Stem triangular, not winged, branched, glaucous. Leaf of a pair of leaflets and a three-cleft tendril, glaucous; leaflet ovate, mucronate, coriaceous, at the edge cartilaginous. The shrub bears leaves through so long a period as to be nearly evergreen. Stipule smaller than a leaflet, broad, heart-arrow-shaped (cordate-sagittate). Inflorescence, a peduncled raceme (cluster) of about three flowers. Corolla's colour a purple-blue (flores "*purpureo-cærulei*"). *L. Armitageanus* is closely related to *L. magellanicus*, and some have deemed it the same; but its glaucous, not blackish, stem, its broader stipule, and, above all, its being shrubby, render it quite distinct. It is hardy: but the parent plant of it, in the Birmingham Botanic Garden, died in the winter of 1834–5, in consequence of its inhabiting a springy soil that had a retentive subsoil. *L. Armitageanus* is well adapted for covering a wall.


1271. CA'SSIA. [Sp. l. Bot. mag. 3435
 10779 glandulosa L. glanded-midribbed  or 5 9 months out of the 12 Y West Indies 1822
 Dr. Hooker has noted that he quite believes this to be the glandulosa L.; but he has queried its identity with the glandulosa of Dec. Prod. and Spreng. Syst.

In a stove in the Glasgow Botanic Garden this kind forms a shrub 4 ft. to 5 ft. high, "bearing, especially at the top, many long, rather straggling, and pendent branches; thus, as it were, presenting the graceful foliage and bright-coloured flowers more immediately to the spectator." Leaves alternate, in two rows, pinnated, with from twelve to eighteen pairs of oblong, nearly sessile leaflets, downy beneath and at the margin. The corolla's extreme points extend beyond the outline of a shilling piece; in colour, full yellow. "It is a plant of considerable elegance of foliage, and bearing its copious blossoms for at least nine months out of the twelve." (*Bot. Mag.*, Sept.)

CXXII. *Geraniaceæ*.

Pelargonium, two varieties of, which have superior qualities, have flowered this year, for the first time, at Mr. Dennis's, where they had been raised from seeds. One variety is deemed to excel Dennis's Perfection. It is similar to this in the characters of the foliage and in the shape of the corolla. The colours of the upper petals are crimson scarlet, with dark, velvet, defined eyes; lower petals lighter. The pugnacious name of Dennis's Defiance has been applied to this. The other variety assimilates in the characters of its foliage to Dennis's Amelia. The plant has been raised from seed so lately as in 1835: it is, for its size and age, prolific in flowers. Umbels on rather long peduncles, and of from five to eight flowers. Corolla large; the upper petals scarlet, with dark defined eyes; the lower petals more rosy than scarlet, of such size, and so arranged, as to approach to symmetry with the upper petals. The name for this had not been, on Aug. 22., decided on. This variety was pointed out to me then, and the other some weeks previously, by Mr. Joseph Robinson, foreman to Mr. Dennis, and distinguished for his proficiency in the culture of pelargoniums. — *J. D.*


CXXIII. *Oxalideæ*.

1414. O'XALIS. § *Adenophyllæ*, judging by what follows.
 11988a } Darwalliana West Birm. Bot. and Hort. Soc. Dr. Darwall's  pr $\frac{1}{2}$? ... "much paler"
 11991a } [in colour than *O. versicolor* Native country unknown ... O p. l]

See, under *Lathyrus Armitageanus*, above. The ideas implied in the description in Latin in Aris's *Gazette* are these: — Leaflet broadly linear, emarginate, bearing, beneath, many glands; peduncle longer than the leaf; styles long, these and the filaments bearing hairs tipped with glands. Of the description in English in Aris's *Gazette*, the following is nearly a copy: — The oxalis was sent as a variety of "*Oxalis versicolor*," but, when examined, was found quite distinct, differing in its much broader leaflets, and by the many dots on the margin of them, instead of two, as in *versicolor*; its corolla is much paler, and

the calyx less acute. Its rootstock is different from that of *versicolor*, being *creeping-tuberous*, and, if suffered to grow in an unconfined situation, would, no doubt, cover a large space of ground in a short time, as, soon after it is potted, the roots push to the side of the pot, and send up new plants. In its inflorescence it resembles *tenuifolia Jacq.*; but its leaves are quite different to what Jacquin describes, as published by DeCandolle in his *Prodromus* [How? on a comparison of the descriptions?], and figure in *Bot. Cab.* It appears to be a species intermediate between *versicolor* and *tenuifolia*.

CXXXV. *Bixineæ*.


1568a AZARA R. & P. (*Joseph Nicolas Azara*, a Spanish promoter of science, and of botany in particular.) 13. 1. sp. 3. [frequent near Valparaiso 1830? L C s.l Bot. reg. 1788
dentata R. & P. toothed-leafed  fra 10? ... Y Woods near Conception in Chili, also

A shrub. Branches pubescent; leaves oblong, from 1 in. to 2 in. long, crenately sawed, deep bright green, remarkably glossy; flowers small, devoid of corolla, yellow in the anthers, which are protruded a little beyond the calyx, disposed in corymbose clusters that are shorter than the leaves, fragrant. *A. dentata*, in England, nailed to the south face of a wall, and protected from wet in winter, forms a very handsome evergreen bush. "No drought seems to affect it; for ... after nearly two months of the hottest and driest weather known in England," its "leaves ... are perfectly fresh and green." (*Bot. Reg.*, Sept.)

The figure has been derived from a plant of *A. dentata*, thus conditioned, in, I believe, the garden of the London Horticultural Society.


On *A. integrifolia* some notice is given in our X. 285, 286.

CXL. *Caryophyllææ*.

1416. CERA'STIUM. [bot. gard. fig. 515
12050a Biebersteinii Dec. Bieberstein's  Δ or $\frac{1}{2}$ jn.jl W Caucasus 1820 D C s.l Maund's
"This, probably, is the true species of DeCandolle, but certainly not that of Dr. Hooker."—
B. Maund. If so, and if Dr. Hooker's be the subject of Bot. mag. t. 2782, then to No. 12050. of
London's Hort. brit., either the authority or the figure cited does not belong: perhaps some of
details, too, do not.

Mr. Maund has stated of the species which he has represented that it "is a highly desirable one, which, from the size of its flowers, and the free production of them, becomes very showy; and it continues its attractions during several weeks." It "is a very suitable subject for putting on ... rockwork, where it will be kept tolerably dry. It should be frequently divided; or it may be struck from cuttings; and a plant or two should be protected in the cold frame, during winter, as a reserve to meet unexpected losses." (*Maund's Botanic Garden*, Sept.) Mr. Maund's figure resembles the plant noted in X. 345. as being seen in Mrs. Marryatt's garden.

CXLVII. *Crassulæææ*.

1410. SEDUM. [gard. fig. 513
†29264 Ewersii Led. Ewers's  Δ or $\frac{1}{2}$ jlau Ro Siberia 1829 C D s.l ru Maund's bot.

"A rare and beautiful plant. Its peculiarly glaucous or whitish foliage gives it a very distinct feature in a collection.

We were first introduced to this species in the Birmingham Botanic Garden." — *B. Maund*, in his *Botanic Garden*, Sept. 1835.

EMBRYO DICOTYLEDONOUS: COROLLA MONOPETALOUS.

CLXX. *Ericaceæ*. In "A notice which has a general relation to Floriculture," given in p. 523, 524., is information on species of plants of this order.

1346 *Arctostaphylos tomentosa* Lindl., Bot. reg. t. 1791.; *tomentosa* Lindl., var. *nuda* Lindl., Bot. reg. t. 1791., in the text. Information on these, under the generic name *Arbutus*, is cited in our X. 286. See, besides, below, here.

A. tomentosa is a "native of rocky places on the west side of North America, from Puget's Sound in the north to California and the Mexican mountains in the south." When cultivated in Britain "in peat and loam, and in a sheltered situation, . . . it flowers in March. Dr. Hooker informs us that, at Glasgow, it," the *tomentosa*, not the *tomentosa* var. *nuda*, "is kept in the green-house. Our specimens" of the *tomentosa* "were . . . from the collection of William Harrison, Esq., of Cheshunt, where it has been kept in the open air for about four years." (*Bot. Reg.*, Sept.)

In the text to t. 1791. of Bot. reg., Dr. Lindley has stated that he possesses two other *arctostaphylos*, like, in habit, *A. tomentosa* var. *nuda*. Whether he has dried specimens only, or living plants of them, he has not stated. He has there given contradictory characters of these, and these names to them: — *A. cordifolia* Lindl., this Mr. Menzies discovered on the north-west coast of America; and *A. glauca*, discovered in California by the deceased Douglas. (*Bot. Reg.*, Sept.)

CLXXII. *Vacciniææ*.

1194. *VACCINIUM*. (Dr. Hooker has referred this genus to the Linnæan class Decandria, in Bot. mag. t. 3433., and noticed there that others refer it to the class Octandria.) [Bot. mag. 3433
†10107 *corymbosum* L. *corymbosum* *infl. escenced* 2 or 2 my W Bh North America 1806 L.p
Synonymy, by Dr. Hooker: *V. amœnum* Ait., Bot. reg. t. 400. ? *Andr.* Bot. rep. t. 138. ? *V. dimorphum* Mx. [L.p Bot. reg. 302
2 *fuscatum* Hook. embrowned (*corolla*?) 2 or ... 2 my.jn W Pk North America 1770
Synonymy, by Dr. Hooker: *V. fuscatum* Ph., Bot. reg. t. 302.; *V. formosum* Andr., Bot. rep. t. 97.; *V. virgatum* Watson, Dendr. t. 33., not Ait.; *V. marianum* Watson.

"All the kinds," that is, the two above of Dr. Hooker, which some have considered, and may still consider, to consist of more than two kinds, bear "copious blossoms during the month of May. The beauty of the flowers is best seen by lifting up the branches; for, in consequence of their drooping position, they are in a measure concealed from the spectator by the pedicels, calyces, and bracteas." Corolla white, tinged with rose colour. (*Bot. Mag.*, Sept.)

†10117 *pennsylvanicum* Mr. Pennsylvanian 2 fr 1½ my.jn W Bh North America 1772 L.p
[Bot. mag. 3434
Dr. Hooker has cited as synonymous the *V. tenellum* Ph., and, with a query, the *V. tenellum* of Ait. Hort. kew. ii. 12.; and has noted that *V. pennsylvanicum* has affinity with *V. corymbosum*.

Flowers drooping, disposed many together in racemes; corolla, in colour, of "a pale greenish white, more or less tinged with red, sometimes in streaks." (*Bot. Mag.*, Sept.)

CXCV. *Asclepiadææ*.

766. *CALOTROPIS R. Br.* ("Literally 'beautifully twisted,' apparently in reference to the corolla [of *C. gigantæa*]. — Dr. Lindley.) [C s.l.it Bot. reg. 1792
†6135 *procera* R. Br. tall 2 or 10 to 20 ap W and purplish R Porto Praya, St. Jago "1714"

Figured from the collection of Sir C. Lemon, Bart., M.P.,

Carclew, Cornwall. In the stove its "flowers are produced in succession for several weeks. In the shade, or when the plant is in a room, they are scentless; but in sunshine, or a warm atmosphere, they are highly fragrant." (*W. B. Booth, in Bot. Reg., Sept.*)

CCIX. *Gesnèrææ*.

1698. *GESNERA*.

fauciälis Lindl. wide-mouth-corollaed ✱ \square or 2 jl S. Brazil? 1833? O p.l Bot. reg. 1785.
"Is nearly related to *G. Sellözi*."

Its corollas are fewer, larger, and more brilliant in colour than those of *G. bulbösa*. It is as hardy as that species, and thrives in the green-house if not damp in winter. "Communicated by the Hon. and Rev. W. Herbert, who received it from Mr. Tate." (*Bot. Reg., Sept.*)

CCXVII. *Bignoniææ*.

1765. *CRESCENTIA*. [mag. 3420
†15745 *Cujète L.* Cujete ♀ \square ec 20 ... Ysh G and Reddish West Indies 1690 C r.m Bot.

The calabash tree. "Branches of it are not unfrequently sent over to our collections from the West India Islands, for the sake of the epiphytes with which they are invested; and these, being fixed in the earth, readily vegetate: but I [Dr. Hooker] was not aware that any had produced blossoms in our stoves, until Charles Horsfall, Esq., obligingly sent me a flower which was perfected in his garden at Liverpool, accompanied by a drawing of the plant from the pencil of Mrs. Horsfall. . . . Mr. Horsfall's plant is growing so vigorously, and has borne flowers so readily, we are not without hopes that it may ere long produce fruit also." The calabash tree is a tree 20 ft. high, with large horizontal scarcely divided branches, which bear fascicles of leaves at various distances. Leaves 4 in. to 6 in. long, tapering to both ends, entire, without a footstalk. Flowers solitary, usually from the older portions of the trunk or branches, pendent. Corolla large, tubularly bell-shaped, "at the mouth cut into five much crisped and waved, sharp, but rather unequal, segments, which are at length reflexed:" colour "somewhat varying, . . . generally of a yellowish green, more or less streaked or veined with reddish lines." Stamens shorter than the corolla, style rather longer. Fruit, in some instances, much larger than the human head, resembling a pumpkin, and used by the inhabitants of the West Indies and all the warmer parts of America for many useful purposes. (*Bot. Mag., Sept.*)

CCXXII. *Boraginææ*.

433. *SYMPHYTUM* 3588 officinale [fl. gar. 2. s. 304
var. *bohémicum* D. Don Bohemian $\approx \Delta$ or 1½ my Bt C Bohemia 1810 D co Sw.
S. bohémicum Schmidt.

Eligible for "a place in the flower-border, for which its dwarf habit and copious crimson blossoms render it very suitable. . . . It will grow in almost any kind of soil, and is easily increased by" separating the rootstocks where they are several, or by

dividing them where they are single. The drawing was taken in the Chelsea Botanic Garden. (*Brit. Flower-Garden*, Sept.)

EMBRYO MONOCOTYLEDONOUS.

CCXL. *Orchiacæ*.

2540. ONCIDIUM. [reg. 1787
 †22680 pulchellum Hook. pretty. $\frac{1}{2}$ \square el 1 "j.lau" W Pk Y West-Indies "1826" D p.r.w Bot.
 "When in flower, its panicle is so loaded with white blossoms tinged with yellow and pink as to
 be weighed down with" them. (*Bot. Reg.*, Sept.) [D p.r.w Bot. reg. 1789
 22684a Lemonianum Lindl. Sir C. Lemon's $\frac{1}{2}$ \square or $\frac{3}{4}$ my Y spot Havannah 1835 (March)

Pseudo-bulbs very small. Leaves 1 in. to 3 in. long, about a quarter of an inch broad. Scape about 9 in. high: it bore five flowers, the expansion of each does not quite equal the size of a shilling. Sepals yellowish, marked along the back with reddish spots. Labellum bright yellow, beautifully spotted. Figured from a drawing supplied by Mr. W. B. Booth, "under whose successful management this and several other curious new orchideous plants have been raised at Carclew," the seat of Sir C. Lemon, Bart., M.P. *O. Lemonianum* "was among a collection imported from the Havannah, in March last, by Captain Sutton of Flushing, near Falmouth, and by him presented to Sir C. Lemon." (*Bot. Reg.*, Sept.)

CCLI. *Liliacæ*.

1028. ERYTHRONIUM. [Bot. reg. 1786
 8527a grandiflorum Ph. large-perianthed $\frac{1}{2}$ Δ or $\frac{1}{2}$ my Y North-West America 1826? O p

"Its very large flowers [perianths], with their segments bent back almost [from] their base, distinguish this, at first sight, from the other American species:" they are stated, too, to be more intensely yellow. Mr. Douglas supplied it, eight or nine years ago, from North-West America, to the London Horticultural Society. They received a single bulb of it, which has continued to grow slowly in a peat border. "It will probably be many years before it can possibly be distributed."

E. giganteum Lindl.

"Beautiful as" *E. grandiflorum* Ph. is, it "cannot be compared with" *E. giganteum* Lindl., "from the same country, which we possess from Mr. Douglas; and which is most remarkable for having an irregularly branched scape" of five flowers. The segments of the perianth are acuminate and reflexed from the middle. (*Bot. Reg.*, Sept.)

REVIEWS.

ART. I. 1. *The American Gardener's Magazine, and Register of all useful Discoveries and Improvements in Horticulture and Rural Affairs.* Conducted by C. M. HOVEY, and P. B. HOVEY, Jun. Boston, U. S., 1835. In Monthly Numbers, 8vo. Nos. II. and III., for February and March.

2. *The Horticultural Register and Gardener's Magazine*. Conducted by T. G. FESSENDEN and J. E. TESCHEMACHER. Boston, U. S., 1835. In Monthly 8vo Numbers. No. III., for March.

WE have here two American gardening magazines, both very well got up, and containing engravings of flowering plants. Unfortunately, the first numbers of both works have not reached us; and we regret this, because it is generally in the first number of a periodical that the editor states its plan, and the subjects it is intended to embrace. Both magazines contain several very interesting original articles, and many valuable and well-selected extracts, copied, with acknowledgment, from our Magazine and other European works. We must not, however, omit to mention, that, in the *American Gardener's Magazine*, p. 44., there is an article, "On the Progress of Gardening in America," copied without acknowledgment, and with only the substitution of the words "America" for "Europe," and "American" for "European," by Grant Thorburn, Esq., the well known and much respected nurseryman of New York, from our *Encyclopædia of Gardening*, 2d edition, § 7710. to § 7722. We feel flattered that our friend Thorburn should have thought this passage, long ago written by ourselves, so worthy of a reprint; but we are only sorry that he forgot to mention where he had taken it from, and that he has thus led the conductors of the *American Gardener's Magazine* into the error of supposing it an original communication, as appears from the note they have appended to it in p. 45.

Both magazines are constructed on the plan of ours; particularly the *American Gardener's Magazine*, which is a very close imitation. There is in it an article giving the prices in Quincy Market, as we give those in Covent Garden; another on the Massachusetts Horticultural Society, resembling ours on the London Horticultural Society; and there are General Notices, Foreign Notices, Domestic Notices, Queries, and Criticisms; and, what has pleased us very much in both magazines, "Calls at Gardens and Nurseries," in which we are very glad to see that the botanic names are accented. We know so little of the state of gardening in America, and we believe so little is generally known on the subject in this country, that we shall make copious extracts from this article, as we think it will be generally interesting to our readers. We shall begin with a notice, from the *Horticultural Register*, of Brooklyn, the seat of Colonel T. H. Perkins. In these grounds the hemlock spruce appears to be in great perfection, and also a fir, which the writer calls "the silver fir (*Abies balsamifera*)."

This must be a mistake; and we are left in doubt whether the tree in question is *Abies balsamifera* (the Balm of Gilead fir), or *Abies Picea*

(the silver fir). The difference between these trees is very great, particularly in America, the latter being an exotic, while the former is indigenous. We presume the writer to refer to *Abies balsamifera*; and we have sent him a Return Paper, hoping that he will kindly favour us with the dimensions of this and other species of trees for our *Arboretum Britannicum*. Speaking of Brooklyn, he continues:—

“In the extensive central glass structure of the range which is devoted entirely to flowers, we were delighted to see the plants in such perfect health and order. The camellias, always the most showy and attractive at this season, were in great beauty and variety: some of the double white appeared the largest we ever remember.”

“The trees in the peachery, occupying the right wing of the building, appeared to us trained in the perfection of the art: the bark clean and bright, the buds in a healthy state. Fearful of admitting the frosty air into the vinery, we did not enter; but Mr. Cowan informed us that the fruit had set, and was already of some size.” (*Fessenden and Teschemacher's Hort. Reg.*, p. 108.)

Brooklyn is also noticed at some length in the *American Gardener's Magazine*; and a number of rare plants are enumerated, which were in flower there on January 15. 1835, including *Eriostemon cuspidatus*, *Veltheimia viridiflora*, and *Enkianthus quinqueflora*; which last, in the neighbourhood of London, has, we believe, only flowered at Redleaf. Colonel Perkins's plant is said to have been bought by him of the Messrs. Loddiges, three years ago. There were also fine plants of *Telopea speciosissima*, *Beaufortia decussata*, and many others: and there is a grapery heated by “a hot-water apparatus, invented by Mr. Perkins of London.” The following extracts are from the same magazine:—

Belmont Place; J. P. Cushing, Esq. Jan. 13th.—“One of the finest in the country, and will probably, ere long, vie with the famous English gardens of Syon House and White Knights. Twelve new pits for late forcing have just been built on Macphail's plan. Mr. Haggerston, the gardener, we found making preparations for forcing vines on the coiling system, as recommended by Mr. Mearns. Mr. Haggerston has already coiled a large quantity, which we observed in the back shed of the green-house; we should say fifty pots or more. Some of the pots are about 10 in. in diameter, and some 15 in. Mr. Mearns recommends shifting; but Mr. Haggerston agrees with us in thinking it impossible to do so, as a vine that is coiled round a pot six or eight times, must be done so with considerable pressure against the sides; and it certainly would uncoil when the pots were taken away, and the ball of earth left unprotected. Mr. Haggerston has, however, very kindly promised to communicate to us any information in relation to his practice.” (p. 69.)

With due deference to all the parties concerned, we think Mr. Mearns's mode of growing grapes, let it be ever so successful, singularly ill adapted for America, where the price of labour is so high. Instead of hearing of the energies of gardeners being directed to forcing by the coiling system, we would rather hear of their attempting a high degree of order and neatness in their pleasure-grounds; of their having smooth, close, dark green turf;

smooth, even, firm gravel; and neat and delicate edgings to walks, beds, and borders. Forced flowers are a very allowable luxury in a country having long winters, and so are forced fruits; but we think that it argues a want of judgment to go a roundabout way to attain either of them.

"In a large conservatory, a double white camellia, upwards of 8 ft. high, was coming into flower; and *Acácia lophántha*, 10 ft. high, was in full bloom. In the centre is the largest plant of *Pandanus spirális* in the country." An astonishing number of other plants are enumerated: among these is *Euphórbia Poinsettii*, so named in honour of Mr. Poinsett, late minister of Mexico, who is said to have introduced it into the country. Mr. Haggerston and Messrs. Hovey, however, consider it to be the *Euphórbia splendens* of our *Hort. Brit.* The conservatory is heated by "hot-water pipes laid under the walks, the heat ascending through the open iron grates between the marble." We are much gratified to find it stated that "Mr. Haggerston preserves the utmost order and neatness in the stoves and conservatory."

Oakley Place; William Pratt, Esq. Jan. 13. Mr. M'Lellan, gardener.—"A suburban residence adjoining Belmont Place, the proprietor of which resides in the city during winter. A number of good plants were shown to the conductors, including very large plants of *Azàlea indica phœnícea*, *Rhododéndron arbóreum híbridum*, camellias, cactuses, &c. The green-house is heated with two brick flues. "Everything denoted cleanliness and attention." (p. 71.)

Roxbury; J. Lemist, Esq. Jan. 15. Gardener, Mr. Willott.—There are large specimens of camellias, rhododendrons, acacias, *Ficus elástica*, *Streíltzia reginæ*, *Cýcas revolúta*, &c. Several ericas were beautifully in flower; and *Dáphne odóra* was filling the house with its fragrance. A pit nearly 80 ft. long was filled with lettuces and radishes; "some of the heads of lettuce being as large and solid as a cabbage." This we call legitimate forcing. There must be real comfort and enjoyment in having such productions in mid-winter at Boston. The lettuces were planted in the pit on October 15., and not a plant had been lost from dampness.

Hawthorn Grove, Dorchester; M. P. Wilder, Esq. Jan. 15.—Mr. Wilder is an amateur, possesses a good collection of camellias, and a number of other green-house and hot-house plants.

Somerset Place; R. Rogerson, Esq. Jan. 17.—Here there is a green-house, and also pits heated by hot water, and forced articles and flowers looking strong and healthy.

In the garden of the conductors at Cambridgeport, "*Tris chinénsis* is coming into flower, with a stem 14 in. or 15 in. high, the terminating spike containing seven or eight buds. *Caméllia japónica speciosa* is in flower for the first time in the neighbourhood of Boston, as well as many other plants, and especially annuals, which have been sown late in the open ground, and, being transplanted into pots, keep flowering in the green-house throughout the winter." (*Amer. Gard. Mag.*, p. 75.)

From these extracts, it appears that gardening, as an art of culture, is making very considerable advances in the neighbourhood of Boston. Let us hope that it will increase rapidly; and, while it affords much enjoyment to the proprietors, that it may also afford some openings for the superfluous gardening skill which exists in Britain in unemployed head gardeners.

ART. II. *Catalogue of Works on Gardening, Agriculture, Botany, Rural Architecture, &c., lately published, with some Account of those considered the more interesting.*

DEAKIN, Richard, F.R.C.S.E.; and Marnock, Robert, Curator of the Sheffield Botanical and Horticultural Gardens: *Florigraphia Britannica; or Engravings and Descriptions of the Flowering Plants and Ferns of Britain.* In monthly 8vo numbers; 6d. plain, and 1s. coloured. Sheffield.

“The object of the present undertaking is to obviate certain difficulties and remove obstacles, with a view to the more general study of a science which affords to the admirer of nature an elegant intellectual enjoyment, while it lays open to the tasteful enquirer objects of exquisite delicacy and variety of structure, as well as beauty of form, leads the mind (particularly of youth) to the investigation of the more minute wonders of creation, and to a preference for *out-door* enjoyments, from which habit arise advantages too obvious to be insisted on here.”

“This work is intended to be published in monthly numbers, demy 8vo, price 6d., commencing August 1st: the illustrations will consist of engravings from original drawings of every ascertained species of British flowering plants and ferns, with dissections of those parts of the plant most important to be known in distinguishing the various *genera* and *species*. Each number will contain twelve figures of plants, six on a page, with letterpress descriptions of the whole. An edition will also be published with coloured plates, price 1s.”

All that we can say in favour of this work is, that it is cheap; for the plates are worse done than any similar publication that we remember to have seen.

Reitz, F. W., Member of the Agricultural Societies of Cape Town and Swellendam: *Observations on the Merino Sheep; containing a brief Account of the Methods by which that Animal has been brought to its present State of Perfection in Germany; and intended for the Consideration of Wool-growers at the Cape of Good Hope.* Pamphlet, 8vo. Cape Town.

The author appears to be familiar with what Thaer, Lasteyrie, and Parry have written on the subject, and also with the practices of the wool-growers of Saxony and at the Cape. As the pamphlet occupies only fourteen pages, we think it ought to be reprinted in the *Farmer's Magazine* entire, and we shall send it to the editor for that purpose.

Titford, W. J., M. D.: *Hortus Americanus. Sketches towards a Hortus Botanicus Americanus; or, Coloured Plates, with a Catalogue, and concise and familiar Descriptions of many*

Species of New and Valuable Plants of the West Indies, and of North and South America; also, of several others, Natives of Africa and the East Indies; arranged after the Linnæan System, and accompanied with Indices, Glossary, Table of Habitats, &c. 4to. London, 1826.

We should be glad to learn whether a second part of this work ever appeared, and what prospect there is of its being completed.

A Lady: Flora and Thalia; or, Gems of Flowers and Poetry; being an Alphabetical Arrangement of Flowers, with Botanical Descriptions and appropriate Poetry. Twenty-six coloured plates. 8vo. London. 10s. 6d. silk, richly embossed.

Stewart, R. B., Esq.: Outlines of Botany: a Sketch of the Linnæan Arrangement of Plants, with Tables to illustrate the Distinctions of Genera and Species; to which are added, Hints for the Management of a small Garden. Small 8vo, pp. 72. London, 1835.

The most valuable part of this little book are the Hints for the Management of a small Garden, which are good so far as they go; but the author has not said half enough on neatness and high keeping, keeping down insects, and watering with an engine or a syringe to counteract the effects of the dust and soot so troublesome in suburban gardens.

MISCELLANEOUS INTELLIGENCE.

ART. I. General Notices.

To destroy Insects by a Solution of Chlorine is said to be a cheap, clean, and easy method. Mr. H. Hall, in the May number of the *Irish Farmer's and Gardener's Magazine*, p. 227., says he has employed this solution for the last three years. It is "made by mixing with twenty gallons of spring water a pound of the chloride of lime (or common bleaching powder), in a large jar, which can be easily made air-tight: to this add about a pound of sulphuric acid (vitriol), which disengages the chloride, and, uniting with the lime, precipitates it in the form of sulphate, leaving a clear solution of chlorine."

A very superior Label for Plants may be made by laying on "a suitable slip of glass a coat of transfer varnish, on which the name, &c., of a plant, printed on paper and moistened, is to be pressed with the finger (the printed side downwards). When the varnish is dry, the paper is to be rubbed off gently with a damp cloth, leaving the printing attached to the glass, on which a strong coat of white oil paint is to be laid, and sprinkled with fine sand or powdered glass; or another slip of glass, similar to the first, painted on one side with white lead, may be cemented on it, when a label of surpassing distinctness and permanency will be produced. Any ordinary printed catalogue of plants may be made available for the purpose above stated." (*R. Ball*, in the *Irish Farmer's and Gardener's Magazine*, ii. 265.)

This appears to us to be a good mode of naming plants, where Stewart Murray's labels (III. 29.), or those of Allardyce (VIII. 33.), are used. Allar-

dyce's brick tallies, particularly (fig. 12., in VIII. 33.), are better adapted than any others we know of for naming trees and shrubs; and, as the panel for containing the glass is large, we would use plate glass on account of its greater thickness and strength. The name, including the English name, Linnaean and natural class and order, native country, and year of introduction, and the year when the tree or shrub was planted, might all be introduced on a slip of paper of the size of the panel; and the only mode of getting this done in a masterly manner is, to have the whole printed from types. This, we know, from extensive experience and observation, is the only mode of insuring accuracy and uniformity. Mr. Ball contemplates transferring the names from a printed catalogue, which would do well for plants in pots, or herbaceous plants; but for trees and shrubs, we think a larger-sized type is requisite, and therefore the names would have to be printed on purpose. If this were done, perhaps the simplest way would be to print on stout cards, which, when glazed over so as completely to exclude the atmosphere, would last a great many years. If saturated with oil, their durability would be rendered still more certain. — *Cond.*

To dry Botanical Specimens with Despatch, Mr. Ball, in the *Irish Farmer's and Gardener's Magazine*, ii. 266., suggests putting the plants between dry flannel, and pressing them with a flannel bag full of salt. The avidity of dry salt and dry wool for water, he thinks, would produce rapid desiccation, without change of colour.

Kyan's Patent for seasoning Timber ought to be noticed in the *Gardener's Magazine*, in order to make it better known. It really does appear to me that this is one of the most valuable discoveries that have been made for these two hundred years; and I want to have it generally introduced into practice. — *W. T. Bree. Allesley Rectory, near Coventry, April, 1835.*

[This invention has been noticed in most of the periodicals, and some account of it will be found in the *Architectural Magazine* for May (p. 236.). It is simply a mode of preparing wood, analogous to the mode of preparing leather by tanning. In the case of the leather, the tannin principle obtained from oak and other barks is made use of; and it acts by combining with the gelatine of the leather, and forming a durable substance of that which would otherwise hasten decay. In the case of preparing timber, the preserving principle is a particular preparation of mercury, called corrosive sublimate, which combines with the albumen, or soft white matter of the sapwood, and renders it hard and durable. The expense of preparing timber in this manner for the ordinary purposes of building is estimated at the very moderate sum of twenty shillings per load; and, when it is considered that this twenty shillings per load will render soft woods, and young trees of twenty or thirty years' growth, as durable as the oldest and best seasoned timber, the advantage does, indeed, appear almost beyond calculation. There only wants the further discovery, which will no doubt be arrived at in time, of rendering this timber completely fire-proof; and then we shall have wooden houses as safe and as durable as stone ones. (See the *Arch. Mag.* as above; or a pamphlet by Dr. Birkbeck, entitled, *A Lecture on the Preservation of Timber by Kyan's Patent for preventing Dry Rot, &c.* 1835. Price 1s.) — *Cond.*

Early, Middle, and Late blossoming Apples should be distinguished in the catalogues of nurserymen, to enable buyers to make a choice suitable to their situations; so that, if two sorts are spoiled with frost or insects, a third might have a chance. Kirke's Lord Nelson is the latest-blooming apple I know; it is almost as late as the mulberry. — *H. Loundes. Hamble, near Southampton, Feb. 9. 1835.*

Kidney Potatoes planted whole, it has been discovered by H. Hollist, Esq., F.H.S., seldom produce more than one shoot: he suspects this may be the case also with round potatoes; and, if so, it is a strong argument against planting whole potatoes instead of sets. When we consider that a potato tuber is nothing more than a concentrated shoot, and that shoots of trees and shrubs, when planted as cuttings, or inserted as scions, often do not push from more

than one or two of half a dozen buds ; the fact as to the potatoes is merely the operation of the same law, which, by a sufficiently extensive generalisation, ought to have been known before. Take the young shoot of a gooseberry or currant, say a foot long, and containing, say, a dozen bulbs, and insert it in the soil, at the proper season, as a cutting : probably only the bud at the extremity of the shoot will push ; but, had the same shoot been cut into a dozen parts, each having a bud, a dozen plants would have been produced by these buds. This case, and that of the potatoes, are exactly analogous.

ART. II. Foreign Notices.

FRANCE.

THE Horsechestnut Trees, near the basin, in the garden of the Tuilleries, are of great beauty, and strikingly ornamental in this particular position. These trees, about the middle of May of the present year, were in the fulness of their bloom. One tree was markedly distinguished beyond all its neighbours by its comparatively greater number of flowers. They were thickly studded upon every branch, and, in a degree, obscured the foliage. The observation was made to me that this tree was of some historical interest, as connected with Napoleon's arrival in Paris (March 20.) ; for, on his entry from Elba, it furnished to him and his friends foliage for their personal decoration, being the only tree then in the garden in such a forward state. It is a curious fact, that, with this invariable precocity, it should also display such a floral propensity. — *F. Huthwaite. London, June, 1835.*

The chestnut tree must be the one alluded to by Mr. Blaikie, in his Return Paper of trees in different parts of France. Under the head of *Æsculus Hippocástanum*, he says, "a variety in the Tuilleries gardens is always a fortnight earlier than the others." It will be too late when this reaches Paris to send over cuttings for budding ; but though this could not be done in time for budding, we trust shoots will be sent over during winter to be grafted next spring. — *Cond.*

True Service Tree (Pyrus doméstica). — This is found so abundantly in some parts of France (Loiret, for example), that cider is drawn from its fruit, which is very much esteemed. It is a curious characteristic of the liquor, that it exhales an odour powerfully offensive, whilst the potation itself is so very delicious. — *F. Huthwaite. London, June, 1835.*

Gladiolus natalénsis has remained uncovered all last winter, and is now growing with great luxuriance, equal to, if not better than, those bulbs of it which were taken up in the usual way. — *Id.*

BELGIUM.

The Humbeque Nursery, near Brussels. — The Humbeque Nursery is situated on the Brussels canal, three leagues from that city and five from Antwerp. Good boats leave Brussels at seven o'clock in the morning, and get to Humbeque at half past eight in the summer ; they also leave Brussels at half past ten in the morning, or at seven in the evening. Passengers going to the nursery must be set down at the second sluice. The boats leave Antwerp at seven o'clock, and get to the nursery, in summer, at half past ten ; and they pass again at half past four. The communication is also easy by land ; the nursery being only one league and a quarter from Vilvorde, on the high road from Brussels to Antwerp. In this nursery a great number of American forest trees have been raised from seeds, and nearly 300 American fruit trees have been exported. Every year a list of the new plants is added to the catalogues published by the proprietors of the nursery, and sent to the persons with whom they are in correspondence. Letters may be addressed (post paid) to M. Haverhal's, Jardinier en chef, chez M. Sterx, Directeur des Postes à Vilvorde.

Among the exotic trees that have fruited in this nursery, the following are particularly deserving of notice: — *Cratæ'gus stipulæcea*, remarkable for its beautiful foliage, was raised in a hot-house, and was planted in the open ground in 1827: it was grafted on a common thorn; it was covered with straw, as a protection, every winter till 1830, but has since been left to nature without further care. It has grown admirably, and has attained the height of 18 ft., and with a stem 10 in. in girth. Since 1832 it has borne fruit. *Cratæ'gus acuminàta* [?] was raised in a hot-house and planted out in 1828. It was covered with straw till 1830; but it has since stood without protection. It is now 14 ft. high, 4 in. in girth, and bore fruit in 1834. *Cratæ'gus glàbra* [? *Photinia serrulàta*] is a fine shrub, 7 ft. high, and with branches about 18 ft. in circumference. It was planted, in 1825, in the open air, and covered with straw till 1829; but since has grown in the open air without any care. *Cratæ'gus nìgra* has borne fruit since 1830: it is trained as a tree, and was planted out in 1827. It is now 12 ft. high. *Cratæ'gus lobàta* was planted out in 1827, bore fruit in 1834, it is now 10 ft. high. *Cratæ'gus badiàta* [? *radiàta*], *C. pyrifòlia*, and *C. Celsiàna*, were planted out in 1827: the first two bore fruit in 1834; but the last did not bear till this year. *Cérusus Laurocérusus* has borne fruit since 1833: it is a large bush, placed in the middle of a greensward, together with an *Aucuba japónica*, 7 ft. high: both stand the cold. The Nepal pear-tree [?] was cultivated in the hot-house till 1826; it stood in the orangery all 1827, and was planted, in 1828, in the open air, but was covered with straw till 1830. It has been left without shelter since that period, except some leaves in 1831 at its base: it is trained as a tree, and is about 18 ft. high by 9 in. in girth. It has flowered abundantly this year: one fruit remained, but it fell last July.

Pÿrus Michaúxia, 15 ft. high, has not produced fruit, neither has *P. Polvèria* [? *bollwylleriàna*], which is here rare. *Pÿrus sinàica*, very different from the snowy *pyrus* [? *Pÿrus nivàlis*], is 25 ft. high by 12 in. in circumference, and has fruited this year for the first time.

The black-fruited peach, planted in 1827, has fruited since 1832: it is a tree in the open air, 16 ft. high and 6 in. in diameter. The black-fruited apricot and the purple apricot have not yet fruited: the latter was covered with flowers this year. The apricot of Nepal has stood in the open air since 1830, as well as a silvery variety which has not yet fruited, which is the case with the cut-leaved apricot of Chili. I have received this year the cut-leaved apricot of Chili, with black fruit: it is very rare. *Córylus Colúrna*, *rostràta*, and *tubulòsa* fruited last year; *C. americana* fruited for the first time this year; *C. rùbra* (*foliis*) and *C. laciniàta* have fruited every year since 1832.

Among the mulberries of my collection, the names of which are added hereto, the *subálba nervòsa* is 10 ft. high and 10 ft. broad. It has fruited this year as well as *M. multicaúlis*. *Mórus* [*álba* var.] *itálica* (it is a branched tree here) has fruited for the last three years. I have made a seed-bed of the latter this year, as well to obtain varieties, as to have plants which are very much in demand for America, for the culture of silk worms.

The *Zelkova* [? *Plánera Richárdi*] has fruit on it this summer. I have never heard that it has fruited before in Europe. It is in the open air, without shelter. I have got two specimens produced from seed sent from Georgia: it is hardy, and forms a fine tree, which we cannot increase fast enough to satisfy amateurs. The one which bears fruit has been grafted. It was planted out in 1829 or 1830. *A'lnus macrophýlla* [?] is 14 ft. high: it has yielded a bushel of seed for the last two years: it is a tree, and 6 in. in diameter. *Bétula júncea* [?], from Poland, is 12 ft. high as a tree. An observation which has been made by the amateurs who have received it from me is, that, if transplanted before winter, it is killed by the frost, but succeeds well if planted in the spring without any care. The beautiful *Bétula dalecárlica* is about 11 ft. high by 3 in. in diameter: it stands the cold. The *Pínus Tæ'da*, planted in 1828 or 1829, is 17 ft. by 14 in. thick: it has not yet fruited; it has a clear stem. The *P. Larício* of Caramania is superb; planted in 1827; it is 11 ft. by 8 in., but has not yet fruited. *Pínus longifòlia*, planted in 1825 or 1826, has borne two

cones of seed this year; it is covered in winter. *Pinus* of Nepal [*Abies spectabilis*?] has not yet seeded: it is covered in winter. *Pinus palustris*, planted in 1829 or 1830, does well: it has been covered the two last winters, in hopes of making it produce lateral branches. The oak with yellow leaves and wood [?], a rare tree, has one acorn this year. The oak *Thomasi*, and *álba repánda*, planted in 1832, succeed well. Notwithstanding every effort, we have never been able to increase the latter. *Pópulus grandidentàta*, *suavèolens* [?], and *lævigàta*, very strong trees, are the admiration of amateurs. *Jùglans heterophýlla* has been planted in the open air for the last two years. *Quércus Túrneri* is 6 ft. high, and grows beautifully in the open air since 1831. An acer from Nepal [?] has stood since 1831 in the open air. The Chinese elm is 6 ft., planted out in 1830. A *mespilus* from Nepal has fruited for the last three years: it was received in 1825, and planted out in 1827. The Nepal oak [? *Quércus lanuginòsa*] is 4 ft.; *Fráxinus floribúnda* from Nepal, 6 ft.; a *betula* from Nepal, 5 ft.: the three last are covered in winter. *Rhámnus cathárticus* and *oleifòlia* [? *R. c. var. angustifòlia*] fruited last year. The *Broussonétia* with white fruit, very rare, has fruited this year. *B. maculàta*, or *navifòlia*, having its leaves in the form of a boat, is very fine. I have also the male and female *Broussonétia*. A'cer *Lobèlii* is 12 ft. high: received from Naples, and planted in 1829, it has stood out without protection. My thorns, including also the *mespiluses*, are very numerous: there are many of them that bear fruit, and I annually sow the seed. I add a list of them. I expect this autumn some species from Spain, and also from Vienna. I have a willow received under the name of blue willow, very beautiful: it is very rare, and was sent to me from America by an amateur. Nobody knows it: it was received in 1829. *Pýrus japónica* [? *Cydònia japónica*], called the yellow-flowered, which had never been seen in flower, flowered here this year in the open air. These flowers, however, are pink, the fruit set, and are of an oblong shape: they have fallen. I think it is nothing more than the *Cydònia sinénsis*, which fruits in the south of France. *Làrix pèndula*, from America, yields seed which grows: it is 18 ft.; planted in 1827.

The following is a list of mulberry trees, some of which are very rare, and the greater part are fit for raising silk worms:—

Mòrus álba, *chinénsis*, *ch. macrophýlla*, *latifòlia*, *itálica*, *it. rùbra*, *canadénsis*, *laciniàta*, *nervòsa*, *tatárica*, *constantinopolitàna*, *rùbra macrophýlla*, *ròsea*, *macrophýlla*, *ovalifòlia grísea*, *Venaissaini*, *foglia doppia*, *membranàcea*, *nàna*, *ovalifòlia frùctu nìgro*, *gazziola*, *furcàta*, *dùra*, *columbassetà*, *columbassetà furcàta*, *meyne*, *columbasse*, *moretti de Padoue*, *marietii*, *lúcida*, *multicaúlis*, and five or six others received this year.

The following list includes the Linnæan genera *Cratægus* and *Méspilus*, and perhaps some of *Sórbus L.*:—

Cratægus or *Méspilus*

acerifòlia.
A'ria.
A'ria vèra longifòlia.
Arònia.
Azaròlus.
Az. fòl. aúreis (very rare).
arbutifòlia.
arb. frùctu nìgro,
badiàta [*radiàta*].
carpática.
caroliniàna.
coccínea.
cordàta.
Cotoneáster laciniàta.
Cot. buxifòlia.
Cot. microphýlla.

Cratægus or *Méspilus*

Crús-gállì.
constantinopolitàna.
ellíptica.
eriocarpa.
físsa.
flabellàta.
fl. frùctu lùteo.
glàbra [*Photínia*].
glandulòsa.
heterophýlla.
indentàta.
índica [*Rhaphiòlepis*].
lobàta.
lineàris.
lúcida.
microphýlla.

Cratægus or *Méspilus*

montàna.
 monogýrica.
 nigra.
 nepalénsis [*? Pýrus Páshia*].
 odoràta.
 odoratíssima.
Oliveriàna.
Oxyacántha péndula.
Ox. flòre álbo plèno.
Ox. flòre plèno ròseo.
Ox. puníceà.
Ox. fol. var. argénteis.
Ox. fol. var. aúreis (rare).
Ox. regìna.
Ox. strícta.
Ox. frúctu lùteo.
 parvifòlia.
Pyracántha.
pyracanthæfòlia.
prunifòlia.
 pùmila.
 punctàta.
 radiàta.
 rotundifòlia [*Cotoneáster* rotundifòlia].
 sanguínea.
 spléndens.
 spicàtum.
 spinosíssima.
 stipulàcea.
 tanacetifòlia.
 tanacet. glàbra.

Cratægus or *Méspilus*

tomentòsa.
 umbellàta.
 virginiana.
 rùbra sempervirens.
 índica sempervirens.
 canadénsis.
 uniflòra.
Méspilus, with long leaves
 streaked with gold : very rare.
 laxiflòra.
 japónica.
 petit coraint.
 melanocárpa.
 græ'ca.
 corymbòsa.
 polónica [*? A'ria*].
 frígida (not propagated) *Cotoneáster*.
Méspilus frúctu macrocárpo.
 The fruit is like apples.
Nummulària (not propagated)
Cotoneáster.
 pectinàta.
 pubéscens.
 intermèdia.
 ovàlis.
Celsiàna.
pyrifòlia frúctu lùteo.
pyr. fr. rùbro.
 The late tree of Mont d'Or.
pyrifòlia nòva.
Ameláanchier.

Fráxinus excélsior péndula is 32 ft. high, and 15 in. in diameter : it is planted in the middle of a mound, made artificially to the height of 7 ft. ; it has been planted three years. It had been three or four years grafted when it was moved ; being planted without any possible support at so great a height, it was buried about 3 ft., in order to resist the wind ; care will be taken to remove the earth when it is well rooted ; and it will be uncovered by degrees. It had four grafts, in the form of a cross, so that the branches cross regularly ; the branches exceed the body of the tree by 2 ft. in height, which is, consequently, grafted at the height of 30 ft. There is, besides, a collection of pine-apples, reported the most considerable in this country, which has been formed by means of exchanges or purchases. I expect more new species in the course of the year. I have a fine assortment of cactuses. I am now busy in forming a complete collection by procuring from abroad the plants which I cannot get here. — *J. le Candele*.

The above lists prove the comparative uselessness, unless for the purpose of deceiving beginners, of publishing lists of names without authorities to them ; though, from knowing most of the different names given to the genera *Cratægus*, *Méspilus*, *Pýrus*, &c., in Messrs. Loddiges' collection, and in that of the garden of the Horticultural Society, we think we can understand what is meant by most of the names : yet still the lists, taking them altogether, are most unsatisfactory. We are, however, very much obliged to M. le Candele for having sent it ; and we have returned the favour by making his nursery known to our readers. We have written to him for dried specimens ; and, having received them, we shall soon again bring the subject of his collection before the public. — *Cond.*

GERMANY.

Botanic Garden of Berlin. — In the limited space of the botanic garden at Berlin, there are cultivated in the open air between 1500 and 1600 hardy trees and shrubs. In the oldest part of the garden, there are, at present, but a few specimens to be seen, and these consist of *Pinus Ströbus*, *Taxodium distichum*, and *Pinus incana*. In 1801, there were several large and beautiful specimens in this part of the garden, of considerable height and diameter, consisting of *Liriodendron*, *Platanus*, *Liquidambar styraciflua*, *Juglans Pecan*, and several others, which, however, suffered so much from alternate moisture and frost, that they completely died off. Most of the trees and shrubs which are now in the garden have not been planted above thirty years, and the principal part since 1810. As the garden is in an open space, it is exposed to storms; but, as the soil consists only of light sand and moist peat, the trees grow well in it, and have considerably increased in size in the course of a few years. We have, in the garden, specimens of *Magnolia acuminata*, from 20 ft. to 30 ft. high; the North American *Quercus* and *Æsculus*, the *Sophora japonica*, seven *Betula*, *Corylus Colurna*; *Juglans fraxinifolia*, *pterocarpa*, *cinnerea*, *nigra*, &c.; *Carya sulcata*, *alba*, *amara*, *porcina*; all the species of *Platanus*; *Populus betulifolia*, *grandidentata*, *monilifera*, *nigra*, and several others; *Ailantus glandulosa*, *Taxodium distichum*, *Acer eriocarpum* and *saccharinum*, *Gleditschia*, *Mespilus*, *Pyrus*, *Catalpa*; several species of American *Fraxinus*, as *F. expansa*, *epiptera*, and *juglandifolia*, which already afford protection and shade to the more tender and delicate trees and shrubs, and which have attained the height of from 30 ft. to 40 ft. The clumps consist of *Planera Richardi* and *Gmelini*; *Pavia rubra*, *carnea*, *hybrida*, and *flava*; *Virgilia lutea*; *Halèsia tetraptera*, *parviflora*, and *diptera*; *Tilia americana*, *laxiflora*, *alba*, *heterophylla*, &c.; *Cytisus alpinus*, *Robinia*, *Caragana*, *Morus*, *Castanea americana*, *Ostrya virginica*, *Carpinus americana* and *orientalis*; *Fraxinus americana*, *pubescens*, *viridis*, *alba*, *pallida*, *verrucosa*, *heterophylla*, and other kinds of the same genus; *Carya olivæformis*; *Populus trépida*, *heterophylla*, *lævigata*, *candicans*, and *balsamifera*; *Acer tataricum*, *monspessulanum*, *montanum*; *Gymnocladus canadensis*, and several others. In these clumps there are also some of the larger kind of shrubs, as *Elæagnus*, *Cornus florida*, &c.; *Viburnum Oxycoccus*, *Tamarix germanica*, *Euonymus americana* and *angustifolia*; all the rhuses; several species of *Pyrus*, *Prunus*, *Amygdalus*, *Cerasus*, *Mespilus*, *Broussonetia papyrifera*, *Xanthoxylum fraxineum*, &c. The smaller shrubs form the outer part of the clumps, which are near the principal walks, and partly consist of the following species: — *Chionanthus virginica* and *maritima*, *Syringa Josikæa*, *Elæagnus argentea* and *orientalis*; *Loniceera ciliata*, *villôsa*, *iberica*, *microphylla*, *hispida*, and *Pallâsii*; *Rhamnus Erythroxylon*, *dahuricus*, and *pusillus*, &c.; *Euonymus nanus*, *sarmentosus*, *obovatus*, &c.; *Ribes sanguineum*, *resinosum*, *floridum*, *tenuiflorum*, and *aureum*; *Berberis canadensis*, *daurica*, *cretica*, &c.; *Laurus Benzoin*, *Pavia macrostachya*, *Clêthra alnifolia* and *acuminata*, *Styrax*, *Halèsia diptera*, *Spiræa*; *Philadelphus gracilis*, *inodorus*, *grandiflorus*, *hirsutus*, &c.; *Amygdalus incana*, *pedunculata*, and *sibirica*; *Pyrus sinensis* and *pùbens*, *Prunus Cocomilla* and *candicans*, *Cerasus persicifolia* and *depressa*, and a multitude of *Rosaceæ*, *Calycanthus*, *Genista*, *Cytisus Peldëni*, *wolgaricus*, *caucasicus*, *purpureus*, *uralensis*; *Amorpha*; *Caragana Altagana*, *Chamlâgu*, and *Redowski*; *Halimodendron argenteum*; several species of *Colutea*; *Corylus heterophylla*, *Shepherdia canadensis* and *argentea*; *Hippophae salicifolia*, and *Coriaria myrtifolia*.

All the above-mentioned plants require no particular protection from the cold, and stand in the open air without any covering.

Many of the principal trees stand in the open air on the lawn; viz. *Quercus coccinea*, *discolor*, *palustris*, and *rubra*; *Liriodendron*, *Fraxinus*, and *Juglans*; all of a considerable height, and from twenty to thirty years old. From measurement, the diameter is 1 ft., and the height from 25 ft. to 30 ft.

Protected by large trees, or in places where the cold from the north and east wind is not felt, we grow, in the open air, *Salisbùria adiantifolia*, *Jasminum fruticans*, *Camphorósmá monspeliaca*, *Paliùrus aculeatus*, *Zízyphus vulgàris*, *Aràlia spinosa*; *Bérberis Aquifolium*, aristàta, and sinénsis; *Asmína parviflora* and triloba, *Kölreutèria paniculàta*, *Laùrus Sássafras*, *Hydránga quercifolia*, *Decumària bárbara*, *Cydònia japónica* and sinénsis, *Photínia arbutifolia*, *Rhaphiòlepis índica*, *Eriobótrya japónica*; *Cotoneáster acuminàta*, affinis, *macrophylla*, *laxiflora*, *frígida*, and *rotundifolia*; *Magnòlia glaúca*, tri-pétala, *auriculàta*, *macrophylla*, *conspícua*, and *obovàta*; *Spártium júnceum*, *Onònis fruticosa*, *Hibíscus syriacus*, *Colútea nepalénsis*; *Astrágalus caucásicus*, *aristatus*, and *tumidus*; *Maclùra aurantiaca*, *Liquidámbar imberbe*, *Myrica cerífera*, *Coriària myrtifolia*; *Nýssa villòsa*, *tomentosa*, and *biflora*; *Nitrària Schóberi*.

Where there is no protection from the snow in winter, the small trees and shrubs are sheltered by the foliage of the *Pínus Stróbùs*; and, when the winter is very severe, the branches of the *Pínus sylvéstris* are used, being placed all round the plant.

The borders for fine American shrubs consist, as in England, of heath and peat mould, and are made sloping. It is necessary, in winter, to cover them with the foliage and branches of different species of *Pínus*. This border consists of *Globulària*, *Azàlea*, *Erica herbacea*, *Menzièsia polifolia*, *Vaccínium*, species of *Dáphne*, *Dírca palústris*, *Kálmia*, *Lèdum*, *Ammýrsine buxifolia*, *Rhodòra*, *Rhododéndron*, *Epigæ'a*, *Andrómeda*, *Lyònia*, *Gaulthèria repens* and *Shállon*, *Arctostáphylos alpina*, *Pýrola*, *Chimáphila*, and several others.

Few evergreen shrubs stand the open air here, except the genus *Pínus*: if they stand the winter, the utmost care and attention are necessary, and they must be very carefully protected.

In mild winters, the following stand out; but in very cold weather they are sometimes killed by the frost:—*Rhámnus Alatérnus*, *Vibúrnium Tínus*, *Laùrus nóbilis*, *O'lea Oleáster*, *Phillýrea angustifolia*, *Rosmarínus officinàlis*, *A'rbutus U'nedo*, *Vítex A'gnus cástus*, *Aúcuba japónica*, *Pistàcia Terebínthus*; *Rúscus aculeatus*, *racemósus*, and *hypoglóssum*. Without any particular protection, in sheltered situations, there stand out here *I'lex Aquifolium* and its varieties, and *I. opàca*; *Smilax*, *Rhododéndron*, *Kálmia*, *Dáphne pòntica*, and *Cneòrum*; *U'lex europæ'a*, *nàna*, and *provinciàlis*; and *Táxus canadénsis*. *E'phedra distàchya*, *monostàchya*, and *altíssima* stand out without any protection whatever. We have but few evergreen shrubs which stand out without protection.

Most of the North American species of the genus *Pínus* stand the open air here. We have not had an opportunity of judging of several of the new species, as we have but one specimen of each; viz. *Pínus ponderosa*, *longifolia*, *Lambertiàna*, and *excélsa*; *A'bies Douglàsi*, *dumosa*, and *spectàbilis*; *Araucària imbricàta* and *Altíngia Cunninghàmi*. *Cunninghàmia lanceolata* and *Cèdrus Libàni* stand under protection, and with great care during winter, in the open air. *Pínus Pináster*, *Larício*, *Pínea*, and *halepénsis*, and *Cuprèssus sempervirens* and *s. horizontàlis*, are continually killed by the frost. Some species of *Thùja*, as *T. occidentàlis*, *orientàlis*, *plicàta*, *pyramidàlis*, *nepalénsis*, and *austràlis*, stand the winter's cold without any protection; also *Juniperus Sabina* and *virginiàna*, *Búxus sempervirens*, and *Cuprèssus thyòides*. On the contrary, *Thùja articulàta* is killed by the frost in the course of a few cold days.

A'cer neapolitanum and *A'lnus cordifolia* are tender in their youth; but, as soon as they are pretty far grown, they cease to suffer from the cold. *Aristotèlia Mácqui*, *Bácccharis halimifolia*, *Búddlea globosa*, *Bumèlia ténax*, *Cístus*, *Diospýros*, *Fontanèsia*, *Phillýrea*, *Santolina*, and several others, are killed by the frost, and the roots and suckers put out yearly new shoots.

For some years back we have been receiving occasionally some new and scarce trees and shrubs from Altai, America, Dahuria, and Italy. Among others, *Pópulus laurifolia Ledeb.*, *Pterocàrya caucásica*, *Ribes heterótrichum*

and atropurpureum, *Corylus tetraphylla*, *Lonícera Ledebouri* and hispida, *Acer ibéricum* and littorale, *Quercus Thomasi* and other sp., *Pinus*, &c., *Prunus chinensis* and *Armeniaca leucocarpa*, *Quercus mongolica*, *Picea obovata Ledeb.*, *Abies sibérica Ledeb.*, *Larix sibérica*, *Salix álba*, var. *tristis*, pállida, and several other species. — *Otto. Botanic Garden, Berlin, August, 1835.*

Frankfort, Jan. 18. 1835. — There is nothing very new in gardening in our neighbourhood. In all useful improvements, Germany stands in need of new information, greater exertion, and a stronger impulse, than England, where a hint is sufficient to send a new discovery, or a new plant, from one end of the country to the other. It appears that our gardens, although very beautiful, are far behind those of England. Nothing that is new seems to be wished for, while what is old is still so beautiful; and, although we have many experienced gardening amateurs, only a few are acquainted with those great improvements which are so much admired in England; yet we have made, for a short time back, some advancement. The ingenuity of our people will at last break through prejudices, and overcome every obstacle. Frankfort can give you a proof of this. You would suppose that, in this rich city, the seat of a powerful diplomacy and of merchandise, with 50,000 inhabitants, and in a part of Germany so well situated for trade, there would be many considerable and beautiful gardens and nurseries in a flourishing state; yet this is not the case. Since the establishment of our business, we have been obliged to make use of every means in order to profit by what the place afforded, and, with great trouble and certain risk, we have at last succeeded in bringing our collection of plants to a state of perfection which, for Germany, is very considerable. While we were so busily employed, the people of Frankfort, with one or two exceptions, seemed to take no interest in us. A general emulation appeared to be wanting; and I therefore, this spring, suggested the idea of the Polytechnic Society in this place preparing a flower show. The proposal to the Society was at first coldly received; indeed, they somewhat laughed at it. By the praiseworthy promptitude of M. von Bethmann, Mr. John Anright, and their very scientifically educated gardeners, M. Sester and M. Tepwich, our courage in this undertaking was alone supported. These few exerted themselves with true zeal; their good example was imitated; and the show which took place on the 22d, 23d, and 24th of May (and of which I take the liberty to enclose you a *Catalogue and Description*), exceeded all our expectations. About 12,000 inhabitants and strangers thronged to the show, and the general voice of applause effected in only three days a decided victory. This show occasioned a general enthusiasm. People have now begun to be convinced of the importance and pleasure of the art of gardening; and it is to be hoped that Frankfort will, in the course of five or ten years, be particularly celebrated for gardening: it is even now in contemplation to establish an institution for garden culture, in union with the before-mentioned Polytechnic Society, and the future prize shows will be prepared by both; thus, by every opportunity the love of gardening will be promoted. May this institution prosper!

In the public gardens surrounding our city are several parts very beautifully laid out, within the last two years, with fountains, and jets-d'eau, and ponds stocked with abundance of gold-fish. M. von Bethmann's garden is, at the same time, laid out in a truly masterly manner. I never before saw, in so small a space, so many beauties near each other; and yet it is not crowded. If agreeable to you, I will send you drawings of both these gardens. [We have written for them.] I received lately from Vienna some varieties of pelargoniums quite new there, which are not only as beautiful as English ones, but some of them are even far superior. This is, for Germany, quite a subject of rejoicing. The *Camellia frankfurtensis* is not white and red, but dark and light red. Mr. Low at Clapton has a plant of it. The drawing is not a good one, but it is a faithful representation of the flower. We have also the following seedling camellias, which have flowered the first time this spring, and are well deserving of notice. *Camellia Gunnelli*, pure white, fine large magni-

ficent flowers. *C. violacea superba*, particularly remarkable for its violet colour, beautifully shaped flowers, and abundance of them. *C. Pronayana*, so named in honour of the Baron von Pronay, a very zealous amateur and promoter of gardening in Vienna. It has not, indeed, a very large flower, but is very agreeably speckled with dark and light red. — *J. Rinz, jun.* June, 1835.

ART. III. Domestic Notices.

ENGLAND.

BUCHANAN's Nursery, Camberwell. — We have visited this nursery several times in the course of the summer; we have also, through the kindness of Mr. Buchanan, jun., received dried specimens of the more rare of the trees and shrubs in the Camberwell Arboretum; and we must confess that we have been most agreeably surprised to find the extraordinary vigour with which trees grow in that arboretum, though they are surrounded on three sides by dense masses of houses and clouds of smoke. One cause may be, that the grounds are perfectly flat, and that they are surrounded, or at least bordered on two or more sides, by ditches constantly containing water. At all events, it is certain that the plants in this nursery have, in this dry season, suffered less from drought than others which we have seen either in the neighbourhood of London, or during our late tour in the country. The circumstance of so many species of trees and shrubs flourishing in the midst of so much smoke, ought to be a great encouragement to the possessors of town gardens. We hope to show, in our *Suburban Gardener*, how very far superior to what they are at present these gardens may be rendered by judicious planting.

The Trees in the Arboretum of the Surrey Zoological Garden being also supplied subterraneously with water from the ponds and lakes belonging to that establishment, are in a very thriving state, and in another year, when they are correctly named, they will not only be a great ornament to the gardens, but form a valuable botanical school for the visitors. As it is in contemplation to have a collection of herbaceous plants and shrubs; or, in other words, to avoid, as much as possible, having duplicates of plants of any kind, these gardens will probably in a few years be as much entitled to the term botanical as zoological. If to such a garden a museum and library were added, it might be entitled a Natural History Garden; and we have no doubt that, in due time, such gardens will be formed by the corporations of towns, and even of villages, all over the country. A grand step towards this end was proposed to be made by Mr. Buckingham in parliament; but the subject has been deferred for the present. — *Cond.*

The Metropolitan Society of Florists and Amateurs held, on Aug. 20., a show of flowers of different kinds in Vauxhall Gardens. A young friend, engaged in floriculture, who attended it, has favoured us with the following recollections of it. Prizes of three classes of dahlias had been proposed, and were awarded. Of the prizes for flowers of pansies, Mr. Lane, Berkhamstead, Herts, obtained the first. Fine flowers of pansies were contributed by Mr. Mountjoy of Ealing. Of China asters there was a collection of fine flowers. Of roses, picotees, and carnations there were stands by Mr. Wilmer. The finest of the roses were from Mr. Paul of Cheshunt, Herts. Of cockscombs there were plants remarkable for dwarfness, the combs pretty fine. There were extremely fine plants of balsams and plants of one or more kinds of *Fuchsia* and of *Humea elegans*, from Mr. Green, gardener to Sir E. Antrobus, Bart. Of orchideous plants there were fine plants of certain species: some of the plants were from Mr. Press. Of *Clêthra arborea* two plants, very full of flowers; very fine plants of *Campánula pyramidalis* in flower; and of *Erica Aitoni* and other species, and *Ròchea falcata*, flowering, were contributed by Messrs. Chandler, Vauxhall. There were flowering plants of *Ròchea falcata*, and various other plants, sent by different persons. A plant of *Magnolia*

grandiflora was remarkable for being under 1 ft. high, yet bearing a fine flower. Of cut flowers there were two fine stands. Of *Erythrina laurifolia* there were flowering specimens disposed into pots of moss. A box of detached flowers of petunias of kinds, disposed upon a platform in a box by passing the tubes of the corollas into holes in that platform, was contributed by Mr. Dennis. As a general character of the show, it was fine and satisfactory. There was an abundance of visitors to inspect it. The members were admitted at 12 o'clock, one hour antecedent to the admission of the general company, who were admitted from 1 o'clock until dusk. — *D. N. R.*

Greater Adam's Needle (*Yucca gloriosa*). — A fine specimen of this noble plant is now in flower in the Oxford Garden; it is about 12 years old, and has not flowered before. Its height from the ground to the top of the leaves is only 4 ft.; but it has produced a flower stem 8 ft. long, the whole of which, except about 9 in. at the bottom, is covered with a profusion of flowers; these flowers are arranged on 37 branches, which form, altogether, a most magnificent pyramid of bloom, above 7 ft. long, by 1 ft. 8 in. wide at the base. The number of flowers on each branch varies from 13 to 40, and amounts, in the aggregate, to 827. They are arranged on the branches in the following order, beginning with the lowest branch, and proceeding upwards:—Branch 1, from the bottom, 20 flowers; 2, 25; 3, 28; 4, 26; 5, 25; 6, 27; 7, 23; 8, 24; 9, 25; 10, 27; 11, 23; 12, 23; 13, 21; 14, 24; 15, 22; 16, 24; 17, 23; 18, 25; 19, 22; 20, 21; 21, 21; 22, 24; 23, 22; 24, 21; 25, 22; 26, 25; 27, 18; 28, 20; 29, 19; 30, 19; 31, 20; 32, 16; 33, 17; 34, 15; 35, 17; 36, 13; 37, 40, this is the terminating branch. Total number of flowers, 827. Besides the above, we have four fine old plants of the same species (two of them with trunks 5 ft. high from the ground to the lowest leaves) now flowering. These were removed late in the spring, in consequence of which their flowers are not so large and fine as they would have been had the plants been left undisturbed. Two of these plants flowered very finely last year. — *W. Baxter. Botanic Garden, Oxford, July 28. 1835.*

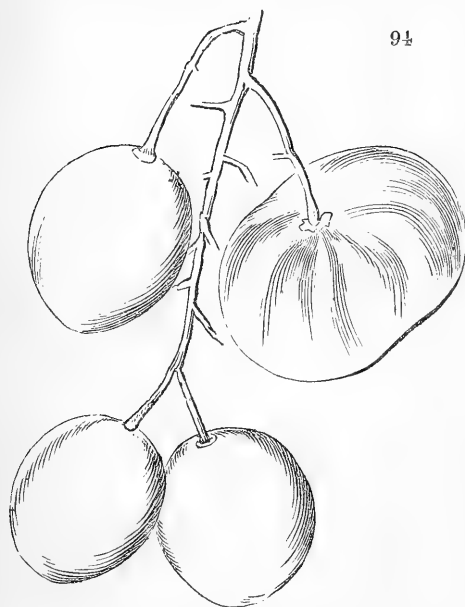
The Dwarf Fan Palm (*Chamærops humilis*). — This palm has flowered annually in the hot-house of the Botanic Garden for many years; but I never remember to have seen it so fine as it is at the present time (July 28, 1835). There are now upon it four distinct bunches of blossoms, produced from as many separate spathas. Each bunch is composed of a great number of small yellow flowers, and these flowers are of two kinds, some being stamiferous (having stamens only), and others hermaphrodite (or having both stamens and pistils), but the stamiferous ones are most numerous. On two of the bunches, which are somewhat forwarder than the other two, the fruit is set, and is now about the size of a common pea. This same plant has produced fruit every year, for these eight or ten years past; and one of the berries which fell off a year or two ago, and was covered with the soil, vegetated, and is now growing in the same tub with the parent plant. How old the plant is, I cannot exactly say, but, from its size, I should consider it to be little less than a century. The stem, formed of the remains of the petioles of the leaves of former years, is 1 ft. 6 in. from the crown of the root to the base of the lowest leaves. The whole height of the plant is 5 ft. 6 in. from the top of the tub in which it grows to the tips of the central leaves. The petioles of the full-grown leaves are 4 ft. long; and the lamina, or expanded part of the leaf, is 1 ft. 4 in. long, and 2 ft. broad. The diameter of the space covered by the plant is 9 ft. 6 in., or about 28 ft. in circumference. — *Id.*

A new Variety of *Dahlia* has been raised by Mr. Wood of Deepdene, and has been named by him Viscountess Beresford, in honour of that lady. The flower of this variety, which is, we believe, considered one of first rate merit, is much in the mode of that of Levick's Incomparable; but the ground colour of the petals is not, as in that flower, nearly of a brick-red, but of a rich purplish crimson: this is rather abruptly lightened off to the white tips. The Viscountess Beresford, as to the colours of the flower, closely resembles

a variety raised in 1834, and named the Hero of Surrey. The petals of the Viscountess are large, flattish, pretty numerous, and imbricatedly arranged into a flattish flower, in which not any eye is shown, but which has the centre filled with petals: all the petals have broad tips; but the centre of the tip is extended into a blunt point. If the variety prove constant to the characters portrayed in the coloured drawing, it will be a valuable one. — *D. N. R.*

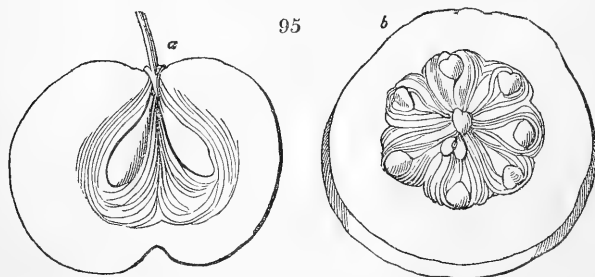
Sarracenia purpurea. — We have now growing, and doing well, about a score of young plants of this species, raised from seeds collected from a plant which flowered in our nursery. Our plants are now twelve months old; and, we believe, few, if any, have been raised in this country from English seeds before. — *John Pope and Sons. Handsworth Nursery, near Birmingham, August 8. 1835.*

Hamburgh Grapes. — I have sent you a bunch or two of black Hamburgh grapes, in order that you may observe a berry on one of the bunches. I



hope you will measure it, and let me know if berries so shaped are common. We have many such here, even though our grapes are not so fine this season as they were last year. I frequently grow the black Hamburgh to 4 lb. and $4\frac{1}{2}$ lb. per bunch. The fruit sent was grown in a pine stove under the rafters. The vines are planted outside the house, in a border 26 ft. wide, and 5 ft. deep, the bottom being thoroughly drained with limestone. The vines are taken out every winter through the front lights, and, when the frost is severe, they are protected by fern or straw. A little frost is of service; but, when severe, it is ruinous to the young wood. The vines are pruned according to the spurring-in system. — *Thomas Forrest. Kinnel Park, Cheshire, July 12. 1825.*

One of the bunches received weighed 2 lb. 9 oz., and the other 2 lb. 5 oz. The large berry shown in *fig. 94.* measured $4\frac{1}{2}$ in. in circumference; a vertical



section of it is shown in *fig. 95.* at *a*, and a horizontal section at *b*: all these figures are of the natural size. — *Cond.*

SCOTLAND.

Great Improvements in the Manufacture of Hemp have taken place lately in Scotland. The price of flax has for some time back been advancing, and is now so high, that it exceeds double the price of hemp. This great difference in price has engaged the attention of several individuals to substitute the one for the other: the principal difficulty was, that the fibres of the hemp could not be sufficiently separated for fine spinning. By the ingenuity of a gentleman in Arbroath, a machine has been contrived which has overcome this difficulty, and for which he has obtained a patent. The machine is very simple, and consists of two fluted rollers of cast iron, through which the hemp is passed to a pair of flat fluted rubbers, also of cast iron, worked alternately up and down with considerable velocity. This operation more thoroughly breaks the hemp, and disengages and throws off a gum which adheres to the fibres, and prevents them from being sufficiently divided. After going through this simple machine, the hemp is completely changed, and has become as soft as flax; the colour is also much improved: in fact, it is now equal to flax, and applicable to most purposes for which flax is used. Although it is only a few months since these machines were first made, one mill in Arbroath (Mr. Straiton's) has given up the flax entirely, and is using the hemp instead; and several mills in Dundee are partially using the hemp for fine spinning. As a great quantity of flax is grown in England, and an enormous quantity in Ireland, in which last country its culture is rapidly increasing; and as it exhausts the ground so that successive crops cannot be raised, the above improvement will, in all likelihood, reduce the price of flax, and raise the price of hemp, of which, I believe, several successive crops can be raised, and make the agriculturists turn their attention to its cultivation. I am not aware if at present it is so much cultivated as flax; but, I believe, the same ground that grows the flax will grow the hemp, or, probably, poorer ground. We may perhaps grow it in Scotland to better advantage than grain. — *John Milne. 39. Laurieston Place, Edinburgh, June 15. 1835.*

ART. IV. *Retrospective Criticism.*

DR. LINDLEY's Ladies' Botany. (X. 390.)—Though I perfectly agree with you in the approbation you express of this most useful and admirable work, I certainly think that Dr. Lindley should have called the attention of the ladies to the peculiar structure of the genus *Alstrœmèria*. It is a genus which appears to be preeminently entitled to notice; and I almost think it ought to stand alone in the natural system, as a genus destined by Providence to confirm the theory, that plants cannot live unless the smooth side of the leaf is uppermost. The terms surface and subface do appear applicable to it, as the leaves are invariably united to the stem with the veiny side uppermost; and then, by some secret impulse, they turn the smooth side to the light, while that part which may be termed the footstalk retains its veiny appearances, although fully exposed to the same influence.

I do not feel competent to criticise so able a work as the *Ladies' Botany*; but, on comparing the coloured representation of the *alstrœmeria*, in pl. 18., with a living specimen of the plant, it appears to me that the leaves in the plate are made to grow with the smooth side uppermost, and then to turn their veiny sides to the light, except one which seems to have a habit peculiar to itself. But I have said enough, I trust, to call Dr. Lindley's attention to the subject: a page from his pen would be valuable in the Magazine. — *M. C. Bingham, July 25. 1835.*

Exotics in a Flower-Garden, &c. (p. 285. and p. 380.) —Extremes upon any subject, when asserted without modification, are hazardous, and liable to criticism: your "dictum," as J. has named it, has thus been attacked; and your opponent has some reason, as far as his taste goes in the choice of flowers, as

it is true that there are a sufficient number of hardy ornamentally flowering plants to render a garden beautiful throughout the year. But, were J's. taste to become universal, it would go far towards paralysing the efforts of those whose exertions are employed in bringing into notice the varied display which nature, in different climates, affords to the admirers of Flora; and our flower-gardens would become less attractive, in proportion to the loss of variety which they would sustain. By such a system, and almost by the same kind of reasoning, it may be asked, what use is there in introducing the almost numberless exotics which are now to be found in the various collections of which this country can boast? But, waving this question, and confining ourselves to the flower-garden, which, in the present day, is embellished with such a splendid display of beauty by the assistance of the pit or cold frame, I must confess I should be sorry to see anything like a retrograding system take place, and even on the supposition that our hardy flowering plants are equally beautiful with the more tender kinds; and, if "variety is charming" almost in every thing, I think it may be truly said to be so when exhibited in the flower-garden.

That the advantages to be derived from a pit or cold frame are not confined merely to growing the tender kinds of flowering plants, may be exemplified by the numerous kinds of hardy annuals which can be brought forward in pots, so as to flower in the open ground at a much earlier period than when sown in the usual way. Cuttings, also, of many of them, if struck in the autumn, may, by this means, be preserved, and will make an early display in the spring: in short, the advantages which are to be derived from this kind of artificial means are numerous, and need not be here detailed, as the lovers of Flora will always appreciate them in proportion to the enthusiasm they possess for introducing into their gardens the greatest possible variety.

J's. taste may be quite appropriate for those who have not the means of extending their sphere of operations in floriculture; but I should regret to see it established among those who have it in their power to exercise a portion of their property and influence in this way. The result of such a taste would be to deprive many persons of the pleasure which they now enjoy in the anticipation of enlarging their collections to the extent they may desire: besides, if such a taste were to become general, the nurserymen and florists might well exclaim that their "craft was in danger." Indeed, were the subject to be carried out in all its bearings, it would be seen that most serious evils would be the result. — *T. Rutger. Portland Place, July 11. 1835.*

Rowland's Metallic Wire. (p. 435.) — In answer to your statement, that the wire, of which I sent you specimens, was not sufficiently strong to bear the zinc labels, I have to inform you that the specimens of wire which I sent were of the thinnest sort; and, moreover, a part of them were only of lead, which I sent, that you might see the difference in strength between the metallic wire and the common lead wire. I should have applied a stronger wire, and of a larger size, to suspend the zinc labels. With this, you will receive 1 lb. of Nos. 12. and 14. to replace that which was broken; and this, you will find, will be effectual. Messrs. Warner have a supply of all sizes. I may here remark how each size is used. Nos. 20. and 18. are for securing vines, &c., in the houses; No. 16. is for tying up flowers, such as pinks, carnations, &c.; Nos. 14. and 12. are for trees against the wall, or railing; and Nos. 14. and 8. are for attaching number labels, or using for any purposes that require strength. You have only to flatten the end of the wire before you place on your number, &c., and, when the wire is cut to a proper length, to bend the other end round your tree, &c., and, pierce a small hole in the label, and suspend it by a thinner size; or one end of the wire may be pointed and inserted in the earth. — *W. A. Rowland. Chester, August 4. 1835.*

Destroying the Scale on Pines. (p. 186.) — I have referred to V. 430., as directed by Mr. Dall, in p. 323., and find that he was right in saying, that the same ingredients recommended by me for the destruction of the white scale had been used by him some years previously. At the time I wrote my remarks I was not aware of the existence of Mr. Dall's paper; and it certainly was my impression, that the method I detailed was discovered by Mr. Wilson:

however, it is only fair to Mr. Wilson to confess that the error originated entirely with myself, and that I never heard him claim the discovery as his own.

My opinion, that the removal of the white scale before applying the ingredients is essential to success, remains unaltered; for I have known insects which had been overlooked found upon the plants several weeks after the application of the dressing, and, apparently, as vigorous as though they had never been meddled with. If, then, these insects could live and thrive with the ingredients intended to destroy them sticking to their backs, the remedy of Mr. Dall cannot be effectual. As bearing upon this point, I may mention that Mr. M'Murtrie, who used the same remedy as Mr. Dall, with the addition of a little camphor, had recourse to the brushing process. (V. 57.)—J. B. W. July 13. 1835.

Ceanothus collinus. — In the list given in the *Arboretum Britannicum* (p. 125.) of seeds introduced by Douglas in 1826 and 1827, you mention *Ceanothus collinus* as not having vegetated in England. We now write to inform you that, amongst other seeds which we received from the London Horticultural Society, in or about the year 1827, was a packet of *C. collinus*, two of which seeds vegetated; and, though one of the plants died, the other has done so well with us, that it flowered last year, and will shortly be in flower again. — John Pope and Sons. Handsworth Nursery, near Birmingham, August 8. 1835.

Coiling of Vines. — It is a pity to see with what rancour any new subject is discussed; as if vituperation and aspersion were essentials in the elucidating of a new theory. No one, I presume, would doubt Mr. Mearn's statements as to his individual success: but the question resolves itself into this:—Is the plan worthy of universal adoption, and is it likely to supersede the common modes now in general use? Its simplicity and accessibility will recommend a trial: I have given it one to the extent of thirty pots of the old and young wood, and both together; but I confess I have not succeeded to my utmost wish. — R. Glendinning. Bicton, August 22. 1835.

ART. V. Queries and Answers.

The proper Age at which to cut down Oak Trees. — “A proprietor of Timber Trees in Kent and Hampshire” enquires (p. 437.) “whether anything has been published that would enable him to determine, with accuracy, the proper age at which to cut down old oak trees?” Does he mean to ask the period at which oaks shall have come to their maturity, and are no longer improving as timber trees? or does he mean at what age oaks should be cut down, so as to make the best return in point of profit? In either case it is not easy to give a precise categorical answer. To take the first case, it should be remarked, that oaks, like all other trees, vary exceedingly in their growth, according to soil, situation, &c. Consequently, some will come to maturity much sooner than others, and will attain, in a given time, to a much larger size. No *one fixed* period, therefore, applicable to all, or even the generality of cases, can, as I conceive, be accurately determined, at which these trees shall have arrived at perfection, as this must differ according to circumstances. Without laying down precise rules, a practised eye will be able readily to decide when a tree is ripe for the axe; in other words, when it has come to its best. There will be no longer any vigorous shoots in the extremities (in woodman's phrase, “no twig,”); but instead, a curling or crinkling of the spray or terminal branches, with scarce any perceptible growth: dead branches or small arms will occasionally be seen towards the top, &c.; and, above all, there will be a tightness, — a contraction of the bark on the stem of the tree; i. e. the bark ceasing to expand will, of course, no longer exhibit those light red or yellow perpendicular streaks in its crevices, which are a certain proof of its expansion, and of the consequent growth of the wood beneath. If the woodpecker has been busy about a tree, it is a sure indication that it is time, and more than time, to fell it; for this bird never attacks a perfectly sound tree, though often

unjustly accused of so doing. But, as already said, an experienced eye will at once perceive the state and condition of a tree, without minutely attending to these and the like particulars. So much in reply to the first question. As to the second, viz. "at what age oaks should be cut down, so as to make the best return in point of profit; the answer to this enquiry involves matter of nice and complicated calculation; besides that much will depend on the demand for timber of this or that particular size and quality in each neighbourhood respectively. It is proverbially said, that "an oak tree is a good banker;" but I have some misgivings as to the truth of that position. The oak is unquestionably a tree of slow growth; and hence, it is proverbially said again, that "a withy will buy a horse before an oak will buy a saddle." It is held by some as an established maxim, that if an oak were to be cut down when it was worth a pound, and the money put out to interest, it would produce a much larger sum than the tree would sell for when arrived at maturity. This may probably be very true; but then, were such practice universally adopted, it is evident there could be no large timber grown — nothing but mere poles: and what a woful deficiency would ensue of fine ornamental oaks! If your correspondent could ascertain the period "at which the increase of a tree becomes so small as that it would not pay the annual interest of the sum which the tree would sell for," and, having satisfied himself on this point, should forthwith proceed to cut down all the delinquent (i. e. unprofitable) trees, I greatly fear he would commit sad havoc on his estate.

The proper management and nursing of timber require some judgment and attention, of course, and more knowledge of the subject, as well as more taste, than, perhaps, most proprietors are possessed of. Doubtless, near a man's residence, profit must, in numberless instances, be sacrificed to ornament, shelter, &c. Ancient venerable trees form the noblest appendage to an estate, and one which, indeed, it would be sacrilege to destroy. Trees, too, of extraordinary beauty, or those presenting any remarkable peculiarity of growth or singularity of conformation, should, of course, in all cases, as far as possible, be preserved as curiosities. At the same time, with regard to woods, — woods, I mean, designed principally for profit, — there can be no question but that the prevailing fault with most proprietors is that of being too sparing with the axe, leaving too much, and allowing oaks to remain long after they have ceased to remain with profit. A landed proprietor very naturally and properly wishes to encourage the growth of oak timber on his estate; accordingly, when a wood is to be cut, directions are given to the bailiff, or perhaps even to a common labourer, carefully to preserve the oaks; and the consequence is, that trees of this kind are spared, time after time, which do not increase one shilling in value by the time the wood comes round to be cut again, a period, it may be, of from ten to fourteen or sixteen years. Now, the evil of this system is twofold: first, there is the positive loss, to the proprietor, of the interest of the money which the trees would have sold for, had they been felled; and, secondly, what is far worse, by allowing them to encumber the ground, a stop is put to a *succession of young trees*, which would have been certain to spring up in their room, according to that just, though homely, adage of our provincial woodmen, "cut wood, and have wood." I could point out instances of woods which are absolutely going to ruin for want of thinning, and out of which the present owners might enrich themselves, and at the same time *benefit* their successors. The subject of a *succession of trees* in woods is not enough attended to. It will perpetually happen, that a thriving tree, one that is "paying money" (as the phrase is), must yet be sacrificed for the sake of some four or five, or perhaps half score, young saplings, which stand around it, and which, of course, will be entirely spoiled by the overshadowing branches of their usurping neighbour, if the latter be allowed to remain for another term of ten, twelve, or more years. In cases like this, therefore, there is scope for the judgment and discrimination of the woodman; and I admit that it is often not a little painful and perplexing to come to a decision. When a prisoner is put upon trial for his life, the jury are always very properly directed, if they have any doubts as to the guilt of the accused, to give him the benefit of such doubts, and to acquit him.

Now, the woodman, I conceive, would best consult his interest by acting in a manner the very reverse of the jury; and, as a general rule, if he has any doubts about the propriety of cutting down a particular tree, in cases like the one just mentioned, I believe he will not greatly err (at least, not in the majority of instances) by consigning it to the hands of the feller, reluctant though he may feel so to do.—*W. T. Bree. Allesley Rectory, Aug. 10. 1835.*

A large single red *Camellia*, at *Bicton, near Exeter*, mentioned p. 52., has this summer produced thousands of flowers, and will, to all appearance, ripen seeds, as you may perceive from the specimen sent [and drawn for the *Fruticetum Britannicum*]. You, or any of your readers, would particularly oblige me by information as to whether this is singular, and if you know of any plant equally large in this country.—*R. Glendinning. Bicton Gardens, Aug. 22. 1835.*

ART. VI. Covent Garden Market.

<i>The Cabbage Tribe.</i>		From	To			From	To
		£ s. d.	£ s. d.			£ s. d.	£ s. d.
Cabbages, per dozen :				Savory, per dozen bunches -		0 2 0	0 3 0
White - - - - -		0 1 0	0 1 6	Basil, per dozen bunches -		0 3 0	0 0 0
Red - - - - -		0 2 0	0 3 0	Rosemary, per doz. bunches		0 3 0	0 0 0
Plants, or Coleworts -		0 3 0	0 4 0	Tansy, per dozen bunches -		0 2 0	0 0 0
Cauliflowers, per dozen -		0 10 0	0 12 0	<i>Stalks and Fruits for Tarts,</i>			
Broccoli, Cape, per bunch :		0 0 9	0 1 3	<i>Pickling, &c.</i>			
<i>Legumes.</i>				Sea Samphire, per small			
Kidneybeans, per half sieve		0 2 6	0 3 6	punnet - - - - -		0 0 6	0 0 0
Scarlet Beans, per $\frac{1}{2}$ sieve -		0 1 6	0 2 6	Vegetable Marrow, per dozen		0 0 6	0 0 9
<i>Tubers and Roots.</i>				Gourds, per dozen - - -		0 1 6	0 0 0
Potatoes - { per ton		4 0 0	4 10 0	Tomatoes, per sieve - - -		0 4 0	0 5 0
- { per cwt.		0 4 0	0 4 6	Capsicums, per hundred -		0 2 6	0 4 0
- { per bushel		0 2 0	0 2 6	<i>Edible Fungi and Fuci.</i>			
Turnips, White, per bunch		0 0 4	0 0 8	Mushrooms, per pottle - -		0 0 8	0 1 0
Carrots, per bunch - - -		0 0 4	0 0 6	Morels, per pound - - -		0 1 6	0 16 0
Red Beet, per dozen - -		0 1 0	0 1 6	Truffles, per pound :			
Skirret, per bunch - - -		0 1 3	0 1 6	English - - - - -		0 12 0	0 0 0
Scorzoner, per bundle - -		0 1 3	0 1 6	Foreign - - - - -		0 14 0	0 0 0
Salsify, per bunch - - -		0 1 3	0 1 6	<i>Fruits.</i>			
Horseradish, per bundle -		0 1 6	0 4 0	Apples, Dessert, per bushel :			
Radishes :				Ribston Pippins - - -		0 7 0	0 0 0
Red, per dozen hands (24		0 0 6	0 0 9	Fearn's Pippins - - -		0 5 0	0 6 0
to 30 each) - - - - -		0 0 2	0 0 3	Ingestrie - - - - -		0 7 0	0 8 0
White Turnip, per bunch				Kerry Pippins - - -		0 7 0	0 8 0
<i>The Spinach Tribe.</i>				Baking, per bushel - - -		0 2 6	0 4 0
Spinach { per sieve - - -		0 1 6	0 2 6	Pears, Dessert, per $\frac{1}{2}$ sieve :			
{ per half sieve - - -		0 1 0	0 1 6	Williams's - - - - -		0 3 0	0 6 0
New Zealand - - - - -		0 2 6	0 0 0	Bergamot - - - - -		0 2 0	0 2 6
<i>The Onion Tribe.</i>				Gansell's ditto - - -		0 7 0	0 12 0
Onions, old, per bushel -		0 3 0	0 3 6	Early Swan's Eggs - - -		0 1 0	0 1 6
For pickling, per half sieve		0 2 6	0 3 0	Peaches, per dozen - - -		0 2 0	0 5 0
Leeks, per dozen bunches -		0 1 6	0 2 6	Nectarines, per dozen -		0 3 0	0 5 0
Garlic, per pound - - -		0 0 4	0 0 6	Plums, Dessert, per punnet :			
Shallots, per pound - - -		0 0 6	0 0 8	Coe's Golden Drop - - -		0 1 0	0 2 0
<i>Asparaginous Plants,</i>				Imperatrice - - - - -		0 1 6	0 2 0
<i>Salads, &c.</i>				Baking, per half sieve -		0 3 6	0 5 0
Artichokes, per dozen -		0 1 6	0 2 6	Damsons, per bushel - -		0 7 0	0 9 0
Lettuce, per score :				Mulberries, per gallon (2 pots)			
Cos - - - - -		0 1 6	0 2 6	tles) - - - - -		0 0 6	0 0 8
Cabbage - - - - -		0 0 9	0 0 0	Berberries, per half sieve -		0 4 0	0 0 0
Endive, per score - - -		0 1 6	0 2 6	Picked Elderberries, per			
Celery, per bundle (12 to 15)		0 1 0	0 1 6	bushel - - - - -		0 9 0	0 0 0
Small Salads, per punnet -		0 0 2	0 0 3	Walnuts, per bushel - - -		0 6 0	0 8 0
Watercress, per dozen small				Filberts, English, per 100 lbs.		1 15 0	2 0 0
bunches - - - - -		0 0 4	0 0 6	Pine-apples, per pound -		0 3 6	0 6 0
<i>Pot and Sweet Herbs.</i>				Grapes, per pound :			
Tarragon, per dozen bunches		0 4 0	0 5 0	Hot-house - - - - -		0 1 6	0 3 0
Fennel, per dozen bunches		0 2 0	0 0 0	From the open wall - - -		0 0 3	0 0 6
Thyme, per dozen bunches		0 2 6	0 0 0	Melons, each - - - - -		0 1 6	0 3 0
Sage, per dozen bunches -		0 2 6	0 0 0	Cucumbers, { per hundred		0 0 6	0 0 9
Mint, per dozen bunches -		0 2 0	0 3 0	Pickling { per thousand		0 4 6	0 6 0
Peppermint, per dozen bunches		0 2 0	0 3 0	Lemons { per dozen - - -		0 1 0	0 2 6
Marjoram, per dozen bunches		0 2 0	0 3 0	- { per hundred - - - - -		0 6 0	0 14 0
				Sweet Almonds, per pound		0 2 6	0 0 0
				Brazil Nuts, per bushel -		0 14 0	0 16 0
				Barcelona Nuts, per peck -		0 6 0	0 0 0

Observations.—Since the report of last month we have had some rain (generally), which has materially improved our supplies of vegetables, both as to quantity and quality. The prices of several articles have declined considerably, such as French and scarlet beans, spinach, &c. Colewort cabbages are as yet scarce, and of indifferent quality. Of turnips we have as yet but few, none that are good, but they are certainly improved, and lower in price. Carrots are plentiful and good. Onions are small and rather short in supply, the price is improved. Of potatoes the supply continues to be limited, at a considerable advance in value: we have not yet obtained any quantities by water, from the distant counties where they are extensively cultivated; but a good supply is shortly expected, which will in a great degree determine the prices of the ensuing season.

Lettuces, endive, celery, and other salad herbs, have been as yet furnished limitedly, and have realised good returns, but not more than a fair remuneration for the extra expense of raising them during the dry weather. Of fruits generally there has been a liberal quantity furnished. Apples and pears are certainly in great abundance, the former generally small, and much affected by blight in the early stages of their growth; nevertheless, there are plenty of excellent size and quality. Pears are also plentiful and good, many of the ordinary sorts abundant. Filberts have also been a great crop, and the market has been liberally supplied; prices have been moderate, but are now improving. Walnuts are not so good a crop, but our supplies have been kept up by large importations from Holland; which, with melons and several other fruits, have been brought over by steam. Grapes are plentiful and good; we have also had a fair supply of peaches, nectarines, and other wall fruits, but as the season advances the prices have improved. — *C. G. M. Sept. 23. 1835.*

ART. VII. *Obituary.*

DIED, June 13., *George Johnston*, gardener to the Earl of Aberdeen. Mr. Johnston's father, a native of Old Rayne, Aberdeenshire, was upwards of fifty years a market-gardener at the bridge of Don, near Aberdeen. His son, George, the subject of this memoir, was born at Old Rayne, on the 5th of January, 1773, and lived with his father till the age of fifteen; when he was employed in the gardens of Monymusk, in his native county. At the age of sixteen he went to England, where he resided during a period of sixteen years. In December, 1805, he was appointed gardener to the Earl of Aberdeen, in whose service he continued till the time of his death.

The various operations in gardening, conducted by Mr. Johnston at Haddo House, will prove a lasting monument of his fame. The very extensive plantations, the excellent new kitchen-garden, and the beautiful pleasure-grounds, all formed by him, bear ample testimony to his ability and sound judgement as a practical gardener.

Mr. Johnston's character, as a good and benevolent man, stood equally high: his manly and gentleman-like deportment was at all times pleasing to his superiors; to his equals he showed the greatest vivacity of disposition and equality of temper; and to his dependants, kindness and sympathy.

Mr. Johnston married about sixteen years ago, but had no issue, leaving a widow only to lament her loss. For several years previous to his death, Mr. Johnston was much afflicted with rheumatic gout, which, in all probability, laid the foundation of water in the chest, the disease which terminated his existence. — *William Kerr, late of Kedleston House, Derbyshire.*

THE
GARDENER'S MAGAZINE,
NOVEMBER, 1835.

ORIGINAL COMMUNICATIONS.

ART. I. *Notes on Gardens in Inverness-shire.* By Mr. ELLIOT,
Gardener to Sir George Stewart Mackenzie of Coul, Ross-shire.

MR. DUFFAS, gardener at Brahan Castle, and I, having last week visited some gardens in Inverness-shire, I send you the few observations we made; that, should you think them worth insertion, you may give them a place in your Magazine.

The first five or six miles of our journey lay across a bare moor, consisting almost entirely of gravel, part of which has been enclosed and planted with larches; another part is appropriated, during summer, to the great fairs, or cattle markets, called Muir of Ord. We noticed a few larches on the moor, of five or six years' growth, completely killed by the dry weather. Near Beauly the land becomes very good; and large fields of excellent barley and oats, with wheat equal to any in Scotland, bore ample testimony to the skill and industry of the cultivators. Beauly is a thriving village, on the banks of the river Beauly, having the ruins of an ancient cathedral, now chiefly used as a place of interment for some of the ancient families in the neighbourhood. The morning being very foggy, we could not enjoy the interesting and varied prospect of hill and dale, cultivated and wild, with which this place, and all the neighbourhood, abound. A little way above the village, we crossed the river by a handsome stone bridge, and, after leaving the principal road to the right for a couple of miles, we arrived at Beaufort Gate, by which we entered the park. The approach road is flat; and, by way of variety, a number of irregular clumps of trees have lately been planted: we much disliked the appearance of a farm steading, near which we passed; but we observed trees planted, which, when sufficiently grown, will exclude it from the view. We left the principal approach on the right, and rode on to the gardener's house, which stands on an eminence overlooking the greater part of the garden, and commanding a most delightful view of the surrounding country. Having found Mr.

Bane, the gardener, we proceeded with him to see the garden; and were struck, on first entering it, by the bright and superlative beauty of some long rows of hollyhocks at the back part of the flower-borders, which run along the principal walks; the front of the borders being stocked with herbaceous plants, and the most showy kinds of annuals. The wall which surrounds the garden is of stone, lined inside with brick; it is wavy, or serpentine; but Mr. Bane says it is not so good as a straight wall, as it causes currents of air. On the wall were some handsome young peach trees, the crop rather short; but an abundant crop of apricots: a vine against the wall had a few bunches, and some of them, which were covered with hand-glasses, were swelling freely. We noticed two very handsome cedars of Lebanon; and there are some very large standard white-heart cherry trees, which bear abundantly. The ground enclosed by the wall being more than is necessary for supplying the family with vegetables, a portion of it is planted with fruit trees, and sown with grass. In a dung-pit, originally intended for growing pines, were the remains of an abundant crop of melons: this pit is built on stone piers, with a covered space outside for dung linings. Mr. Bane showed us a bee-hive, consisting of three boxes on the same level, which communicate with each other by openings in the adjacent sides, furnished with fir sliders to exclude the bees at pleasure: the object is to get the honey without destroying the bees, by opening the communication with an empty box, and, when the bees have left a full one, to shut the opening, and remove the box. We next went to see the pleasure-grounds, which are of great extent. The house occupies a most enviable situation, overlooking the river Beaully, and commanding most interesting views of hill and vale for many miles on every side. The house itself is quite unworthy of so fine a situation; but we understood that it is intended soon to substitute for it one more suitable to the place. We peeped along the terrace front, and saw there was a rich display of dahlias, and other showy flowers; and in a flower-garden adjoining were clumps, or beds, of *Sálvia fúlgens*, *involucràta*, and *spléndens*, *Fúchsia microphýlla* and *globòsa*, *Senècio élegans* *flòre plèno*, and several sorts of pelargoniums, in fine flower. In one part of the pleasure-ground is a pheasantry, in which we saw some beautiful gold and silver pheasants. We were highly pleased with the laying out of the grounds, which, we believe, was chiefly from the suggestions of the Hon. Mr. Fraser of Lovat. Nature has given great variety of surface; and we think the masses and shrubs, and the direction of the walks, are well adapted to the natural outlines. One defect, which may yet be remedied, was, however, very apparent; and that is, that this fine place, which contains sufficient space for every kind of ornamental tree and shrub that will endure the open air in Britain, is entirely planted with a few species,

most of them common. A summer-house, with a rosary in front of it, on an eminence, commands a view of nearly the whole. We noticed two good specimens of purple beech, and some fine Lombardy poplars and weeping birch. The whole of this beautiful place was in the highest order; scarcely a weed was to be seen, and the grass was smooth like velvet. Mr. Bane now showed us a near way to Belladrum; and we rode off highly pleased.

We entered the park at Belladrum by a handsome iron gate. The approach led through plantations of larches, and then of Scotch pine: they seem to be kept thin and pruned. We were sorry to find that Mr. Westwood, the gardener, was from home; more especially as I had never heard whether he had filled up, and returned to you, the return paper I had sent him. We went over the grounds with one of the lads. The vegetables, fruits, and flowers were, in our opinion, too much mixed at this place; though we do not object to a moderate quantity of espalier trees and flower-borders in a vegetable garden. We saw good crops of grapes in three vineries, facing east, south, and west; and in a little house were some pines with a few small fruit on them: but plants with showy flowers appear to be here the chief object; and in a flower-garden, walled round, there was a most beautiful display of dahlias, *Fúchsia microphýlla*, globòsa, grá-cilis, &c.; *Petùnia phœnícea*; *Senècio élegans* flòre plèno; *Verbèna chamædrifòlia*, venòsa, &c.; and several very fine varieties of pelargonium. In one part was an aquarium with a few plants; but, owing to some defect in the embankment, it was not near full of water. A small children's garden was very neat; and we were told that two of the sons were very fond of, and had acquired a considerable proficiency in, botany. Mr. Westwood not being at home, we did not go near the house, which is a beautiful modern structure, richly furnished. The park is well wooded, and in first-rate order. We noticed two very fine English elms: one of them, at a foot from the ground, was $2\frac{1}{2}$ ft. in diameter; and we estimated the height at 90 ft.

We now went to Relic, and soon found that we ought to have taken a whole day to see its beauty. We found almost all the plants we had seen at Belladrum; and in a small green-house, and in frames, were some seedling plants from Persia, sent home by the proprietor, Mr. Fraser; but the grand object of attraction was the great variety of trees and shrubs that had attained a good size; most of them, with few exceptions, planted by the late proprietor, General Fraser, who collected a number of the seeds himself in America. We went up one of the most romantic dens anywhere to be met with, on purpose to see the Old Ash, at Robeg, the measurement of which we got. This den, or dell, is planted on both sides; and, amongst the more common

trees, are some fine specimens of *Pinus Pináster*, *P. Stròbus*, and *Abies canadensis*. One of the grandest objects in this dell is an almost perpendicular rock, rising to the height of 200 ft., which, in its rising, assumes all the fantastic forms imaginable. At the bottom of this rock a resting place has been constructed in the form of a ruin : it is called the Chapter House, and consists of two huge pillars, with arches springing from them to the rock, and to each other. The scenery from this is really delightful : the rocky bed of the river, with banks on each side, clothed with various trees and underwood, and here and there a bold projection of rock, torn, as it were, from the recess in the opposite side ; all conspire to render this a fairy scene, which may be equalled, but not surpassed.

I will now subjoin the measurement of a few trees that we had time to take :—*Liriodéndron Tulipífera*, in fine flower, 30 ft. high ; diameter of trunk, 1 ft. 3 in. ; diameter of branches, 36 ft. : the leaves of these seemed to us more acutely angled than any we had seen. *Acer campéstre* [? *Pseùdo-Plátanus* : *A. campéstre* seldom, even in England, exceeds 30 ft. in height] variegátum, 60 ft. high ; diameter of trunk, 1 ft. 4 in. ; diameter of branches, 33 ft. *Pàvia flàva*, 18 ft. high : diameter of trunk, 1 ft. 3 in. ; diameter of branches, 24 ft. ; planted singly on a lawn ; flowers freely ; has a round compact head. *Robínia Pseùd-Acàcia*, 30 ft. high ; diameter of trunk, 1 ft. 6 in. ; diameter of branches, 24 ft. : planted singly ; a beautiful specimen. *Jùglans cinèrea*, 50 ft. high ; diameter of trunk, 1 ft. 2 in. ; diameter of branches, 42 ft. : fine specimen, and many more equally good. There were many fine trees of common walnut bearing profusely, and some American varieties, that we had not time to see. *Juníperus virginiana*, 25 ft. high ; diameter of trunk, 1 ft. 4 in. ; diameter of branches, 21 ft. : a fine specimen, on a lawn, rather injured by an oak in its neighbourhood. *Cèdrus Libàni*, 30 ft. high ; diameter of trunk, 2 ft. 8 in. ; diameter of branches, 60 ft. : by itself ; a beautiful tree. There are many cedars of nearly equal size ; but, as they are growing in groups, individually they are not so fine. We noticed a great variety in the colour of the foliage, some of them being glaucous, and others grass green ; but the gardener had not remarked whether they all bore cones alike. *Cèdrus Deodàra*, a young tree, very healthy, about 4 ft. high. *Pinus Pináster*, 18 ft. high ; diameter of trunk, 2 ft. 9 in. ; diameter of branches, 72 ft. : on a lawn ; had its top shoot broken off many years ago, and never formed another leader. In the dell above mentioned are several of equal diameter, and very tall. *Làrix europæa sibírica*, 36 ft. high ; diameter of trunk, 9 in. ; diameter of branches, 14 ft., I think. In *L. microcarpa*, the leading shoot, after reaching about 20 ft., takes a horizontal direction, and numerous shoots hang like festoons ; the cones are small and yellow. Some other larches

have their cones red. There are also young plants of *Abies Douglasi*, *Pinus Cembra*, and others: *Fraxinus excelsior*, 90 ft. high; diameter of trunk, 5 ft. 7 in.; diameter of branches, 72 ft. We were informed that this tree contained 196 cubic feet of wood: it is a beautiful timber tree, as straight as an arrow, and free from branches for a great height. *Fraxinus simplicifolia*, 40 ft. high; diameter of trunk, 2 ft. 4 in.; diameter of branches, 48 ft. *Quercus Leucombedana*, 15 ft. high; diameter of trunk, 1 ft. 5 in.; diameter of branches, 30 ft. A strange specimen of *Betula nigra* (I think): the trunk seems, at a little distance, to be composed of cable ropes of different sizes, crossing in all directions; it is 30 ft. high; diameter of trunk, 3 ft.; diameter of branches, 42 ft. Besides what I have enumerated, there are many American acers, birches, oaks, &c.; a great variety of variegated hollies, some of them fine specimens; amongst others, a young *Ilex opaca*: also, in the woods, some plants of *Chimonanthus fragrans*, growing and flowering freely. We had not time to pay attention to fruit and vegetables at this place. An old ruin was pointed out, as the place from which the name (Relic) of this place is derived.

I subjoin a list that I received from Mr. Weir, gardener to Duncan Davidson, Esq., of Tulloch Castle, near Dingwall; being the only list I have received from a considerable number of gardeners who promised me; and I should not have got this, although it was prepared, had I not gone myself, as Mr. Weir thought it would be of no use:—Ash, 60 ft. high; circumference, 13 ft. Walnut, 60 ft. high; circumference, 10 ft. Silver fir, 70 ft. high; circumference, 7 ft.; diameter of branches, 20 ft. Evergreen oak, 30 ft. high; diameter of branches, 10 ft. Portugal laurel, 20 ft. high; diameter of branches, 15 ft. Arbor vitæ, 30 ft. high; diameter of branches, 10 ft. Sweet bay, 20 ft. high, diameter of branches 22 ft. Common holly, 26 ft. high; diameter of branches, 15 ft. Golden-striped holly, 18 ft. high; diameter of branches, 13 ft.

Tulloch Castle is beautifully situated on rising ground, overlooking the Frith of Cromarty and the Burgh of Dingwall, and commanding very extensive views of the country around. The gardens and pleasure-ground are of great extent; and probably, at some other time, I may give you some account of them. [We shall be very glad to receive it.]

A few days ago, when at Brahan Castle, I noticed a small tree, of what I think is *Ulmus crispa*, beautifully variegated. In the return paper sent you from Brahan it was called variegated elm. I may just observe that *Verbena chamædrifolia* and *V. pulchella* stood the winter without protection, and are now in flower. *Verbena pulchella albida* [Vol. X. p. 586.] is very showy, and contrasts finely with the others.

Coul, September 4. 1835.

ART. II. *Remarks on the Temper in which Discussions are sometimes carried on, wherein the Object is Victory for one of the Parties, rather than the Ascertaining of Truth.* By MR. R. FISH.

I HAVE often been sorry to observe that, in discussions amongst gardeners, the great aim of which ought to be the acquisition or establishment of truth, we should so often appear to lose sight of its interests, for the paltry purpose of not interfering with preconceived notions and prejudices; or of preserving an apparent consistency with formerly published opinions, even when aware that these opinions have been founded in misconception, or carried out to an extreme which more extended experience will not justify. Seldom, indeed, do we witness that straightforwardness of character which leads a man to retract his opinions whenever he finds them untenable, or be glad of an opportunity of stating the smallest alteration in his views; but often do we mark the exemplification of a different principle, which leads a man, rather than confess a trifling error, to treat plain questions with evasion, and arguments with insinuations and assertions. To spend one's life in search of the philosopher's stone would scarcely be more futile than the attempts to arrive at truth by discussion with such individuals. It matters little what course you adopt; for either they cannot, or will not, see the drift of your purpose. You may surround them with a fence of reasoning, to get from which honourably, they must either confess their inability, or at once put forth sufficient energy to lay it prostrate; which can only be effected by bringing mind to bear upon mind, and argument to bear upon and confute argument. But what is the conduct we too generally witness? One party, instead of attempting the ramparts and towers of his adversary, carefully sounds the weaker parts of the fortification, till he at length hits upon some almost defenceless corner; through which he no sooner passes, than he hastens to proclaim the liberty he has obtained, the triumph he has won, and the pitiable weakness his adversary exemplified, in rearing and placing dependence upon a superstructure which a breath of wind was sufficient to dissolve into airy nothing. Forgetting that, though their glowing sentiments may be eagerly swallowed by many who possess no criterion for judgment, there are others, endowed with keener powers of perception, who naturally enquire, how it comes to pass, if the fence of reasoning was so very slight, that so much of it was left standing, as if in mockery of the might opposed to it; and affording, too, more than the presumptive probability, that yet its assailants would be driven back through the opening from which they had emerged, and become more securely barricaded than before.

But there is another way of avoiding all the shafts of reason-

ing, and yet exhibiting the desire to wound, without the moral courage of striking an open blow ; namely, by pricking you with a weapon which ought never to be seen upon the field of enquiry : I allude to the too common inconsistency of neither attacking the reasoning, nor yet the materials, of which the arguments are framed, but endeavouring to depreciate the abilities of the agent employed, and, by taunts, sneers, and personalities, trying to ruffle his spirits, and thus divert him from the real case at issue. This is often accomplished by insinuations, such as, "What can he know?" "Where has he been to learn?" "What experience has he had?" "Whose systems has he examined?" "A pretty fellow, indeed, a fine specimen of presumption, to call in question the sayings and doings of men whose very names, appended to a system, used to be a guarantee of its truth!"

A practice like this, which, although (thanks to the improving taste of the public) it can scarcely find vent in any respectable publication, is yet freely indulged in by many so far as their influence extends, must inspire, in the mind of every man who has a sincere regard for the interests of truth, the deepest regret that such attempts should be made to crush incipient merit, particularly as they must at the same time have a deteriorating influence in prostrating the intellect, perverting the talents, and weakening the moral sensibilities of those engaged in such an undertaking.

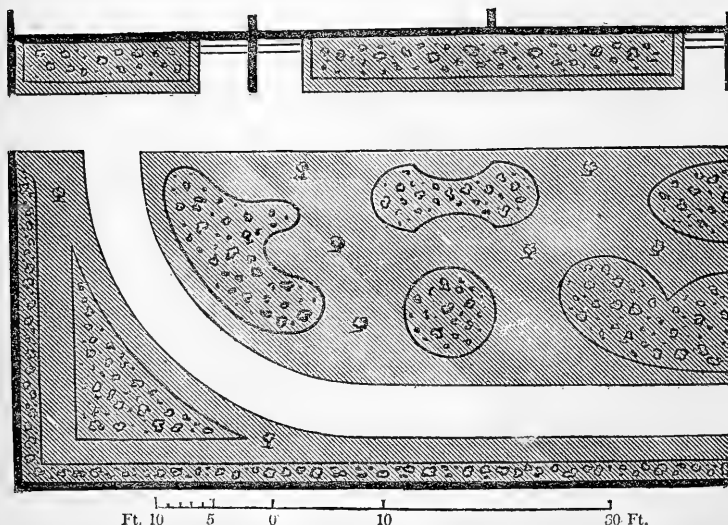
We may allude to another method, adopted by those who are more anxious to secure a personal triumph than the triumph of truth : I allude to the introduction of irrelevant matter in a discussion, when your opponent seems to be fully aware that he has no chance of success in meeting you upon the chosen ground, and therefore cunningly holds out a bait to allure you from your position ; which he no sooner effects, than, keeping up a retreating fire, like the hero who, "though conquered, yet would argue still," till he has gained a favourable position, and observes you following, but walking heavily in fields with which you are little acquainted, he rushes down, and, ten to one, obtains a victory before you have an opportunity of retreating to, or getting a sight of, the position you had foolishly left. Hence the importance of discarding all irrelevant matter in a discussion, and the impropriety of admitting even an inappropriate simile, which, if artfully managed, might be made the subject of enquiry, instead of the previous question ; while still more subversive of truth is the practice of bringing forward the general good character of, and the advantages conferred by, an individual, as a guarantee for the merits of a system which he had propounded, and which has been proposed for examination, instead of grappling with it as to its intrinsic value ; as if the general validity of the author's statements, and his benevolent disposition, should operate upon us as a proof

that he never could be wrong, and that therefore the very act of enquiry was an act of indelicacy, as calling in question his general veracity.

These are a few of many ideas which have often been impressed upon my mind by the manner in which discussions have been conducted; and, should you think proper to insert them, I humbly hope they may be somewhat instrumental in leading us to sacrifice our false principles of consistency upon the altar of truth; and, while taking the utmost care that we are fairly dealt with by our opponent, that we may display similar anxiety in retracting our opinions as soon as the error of them is made apparent: fully convinced that, though a fleeting honour may sometimes be obtained by artfully evading the force of a home-thrust argument, by an irrelevant dissimulating system of reasoning, it will sooner or later be treated with deserved contempt; while at no time can the honour derived from it be for an instant compared with that which, after the first moment's irritation from having been deceived is past, will be universally stamped upon the character of the man who, acting from sterling principles of honour and sincerity, has the noble manliness to publish a declaration of his misconceptions, lest his previous recommendation of what he has by experience found to be erroneous should be the means of leading others astray.

Hyde Park Corner, Sept. 15. 1835.

96



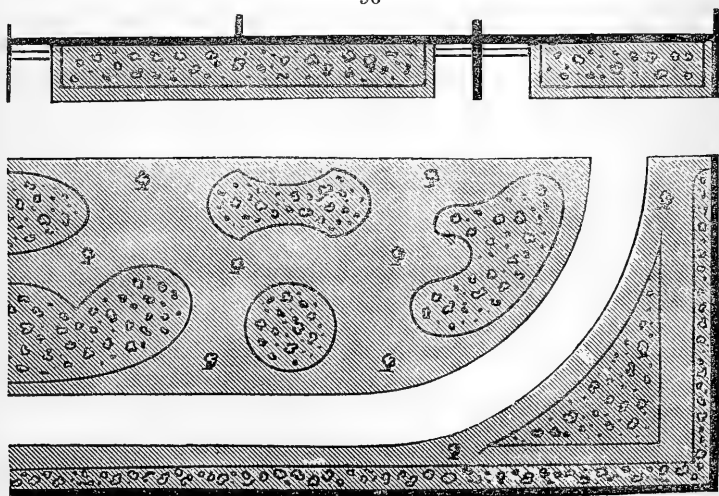
ART. III. *A Series of Designs for laying out Suburban Gardens and Grounds, from One Perch to several Acres in extent.* By Mr. T. RUTGER. Design 3. *Frontages of Six Houses thrown into One.* Design 4. *Frontages of Four Houses in detached Pairs.*

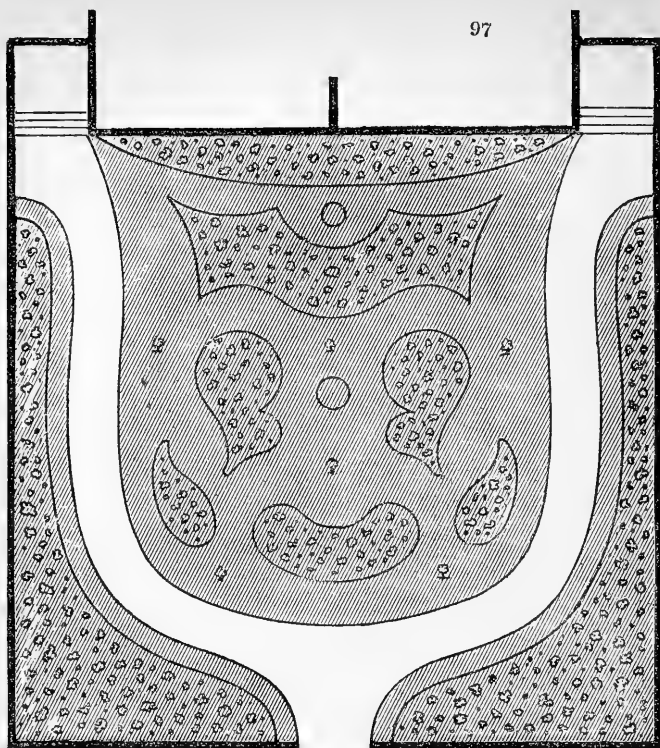
IN the design No. 3. (*fig. 96.*) the frontages of six houses are thrown into one, and the houses may be supposed to belong to one proprietor; in which case the expense of keeping the frontage in order may be charged on the rent, and the man engaged to keep it paid by the proprietor.

The advantage of this kind of frontage, or garden, common to all, is, that a greater variety of shrubs and flowers may be introduced in it than it would be possible to do in the frontages of No. 1. and No. 2. of the series; and, as there would be more light and a more free circulation of air, the plants would thrive better, and, consequently, show themselves to greater advantage. The six houses are supposed to be detached from others in the same line, so that an entrance may be gained at each end. The walks I propose should be laid down with stone; and ornamental vases or figures may be placed here and there on the grass, or in the centre of some of the clumps, as fancy may direct. This frontage encloses about sixteen perches of ground, and is, consequently, of sufficient extent to receive a considerable variety of flowers and shrubs.

The design No. 4. of the series (*fig. 97.*) gives the frontages of four houses in detached pairs, the entrance to each of the

96





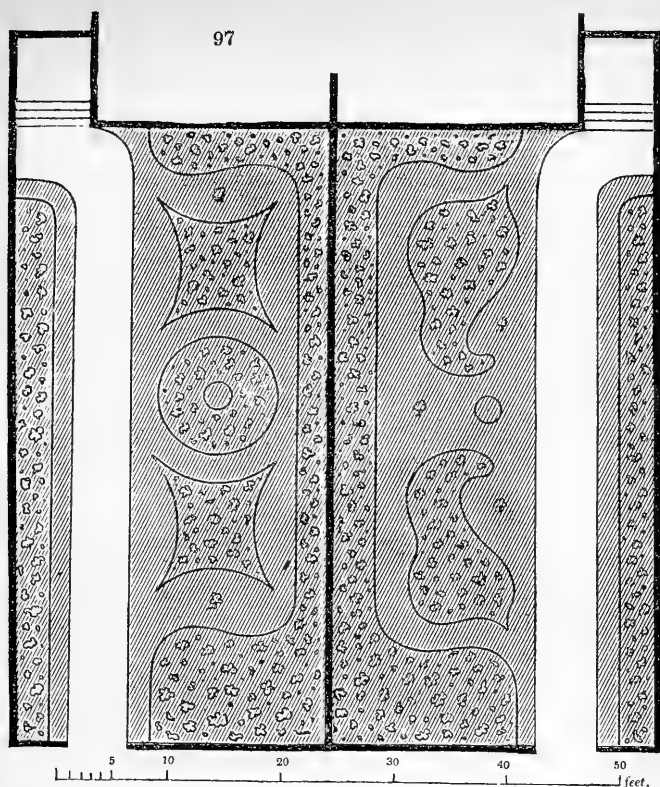
houses being on the side, by a porch. The frontages to the two houses on the right are separated by a partition wall or fence, and each frontage contains about six perches of ground. The two houses on the left have but one frontage for the residents of both houses, and it contains about twelve perches. The walks to each of the houses are recommended to be laid down with stone, and ornamental structures may be placed in each of the frontages, agreeably to the taste of the occupiers.

Portland Place, 1835.

ART. IV. *A new Method of striking Cuttings.*
By Mr. ALEXANDER FORSYTH.

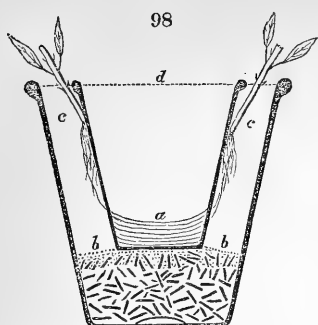
THE sketch (*fig. 98.*) represents a new mode of striking cuttings, which I have proved to be far superior to the ordinary practice; and which is so extremely simple, that I think it is likely to be adopted, as well by the amateur cottage matron, with her pinks

97



and wallflowers, as by the professed propagator of valuable exotics. It is as follows:—Take a wide-mouthed 48-sized pot, for example, and crock it in the usual manner with broken tiles, &c.; then take a wide-mouthed *small sixty*, and put a piece of clay in the bottom of it to stop the hole; then place it inside the other, on the top of the crocking, so that the brims of both pots may be on a level. Then fill in the space between the pots with sand, or other propagating soil, according to the nature of the plant about to be propagated; and let the cuttings be inserted in the manner here shown (*fig. 98.*), with their lower extremities against the inner pot. Plunge the pot in a cutting frame, or under a bell or hand-glass, in a shady place out of doors, according to the nature of the cuttings and the season of the year; and let the inner pot be filled and kept full of water.

The advantages to be derived from this method are numerous, and must be evident even to the casual observer; the principal



of these are, — the regularity of the supply of moisture, without any chance of saturation; the power of examining the state of the cuttings at any time, without injuring them, by lifting out the inner pot; the superior drainage, so essential in propagating, by having such a thin layer of soil; the roots being placed so near the sides of both pots; and the facility with which the plants, when rooted, can be parted for potting off, by taking out the inner pot, and with a common table-knife, or the like, cutting out every plant with its ball, without the awkward, but often necessary, process of turning the pot upside down to get out the cuttings.

In *fig. 98*, *a* shows the clay stopping of the pot; *b*, the drainage of potsherds, or broken crocks; *c*, the sand or other soil in which the cuttings are inserted; and *d*, the water in the inner pot.

Oakhill Gardens, June 8. 1835.

ART. V. *Notices of remarkable Trees now growing in the Environs of London.* Abstracted from various Sources by J. W. L.

WHITTON is well known as having been the residence of Archibald Duke of Argyll, one of the first noblemen who made the planting of foreign trees and shrubs fashionable in England. Whitton is now divided into three estates, the largest of which is in the possession of Mr. and the Misses Ghostling. There are a great number of fine cedars in the grounds, particularly of the glaucous-leaved variety, the largest of which is 71 ft. high, and 14 ft. in girt. There is a Lombardy poplar 115 ft. high, with a trunk 19 ft. 8 in. in girt, at 2 ft. from the ground. There are three deciduous cypresses, which average 81 ft. in height, and 14 ft. in girt; six silver firs, which average 95 ft. high, and from 10 ft. to 11 ft. in girt; and seven Weymouth pines, about 80 ft. high, and from 11 ft. to 12 ft. in girt. A very fine willow-leaved oak (*Quercus Phellos*) is 70 ft. high, and 7 ft. 3 in. in girt, at 5 ft. from the ground; and a black hickory (*Juglans nigra*) is 60 ft. high, and 10 ft. 9 in. in girt at the same height. — *R. C. Feb. 6. 1835.*

In a garden at Twickenham there is a very handsome catalpa, 50 ft. high, 7 ft. in girt at 5 ft. from the ground, and with

branches spreading over a space 46 ft. in diameter. There is a very curious cedar in the garden of Sir Walter Waller (formerly belonging to Pope). It is about 85 ft. high, and measures 12 ft. 6 in. girth, at 5 ft. from the ground: it appears to have been headed down when young, as it swells out very much at about 10 ft. from the ground, and there divides into eight very large upright branches, growing up very straight, and very close together, with no spreading laterals. The appearance of this tree is very singular. In the same grounds is a large *Fraxinus juglandifolia*, also of a very remarkable shape. The trunk rises about 8 ft., averages 8 ft. in circumference, and then divides into upwards of twenty large branches, each about 30 ft. long, which spread out like a fan. The height of the whole tree is about 45 ft. — *Id.*

In the garden of the Bishop of London's palace at Fulham, there is a *Kölreutèria paniculata* 20 ft. high; a standard Judas tree, 25 ft.; a black hickory, 50 ft., with a trunk 5 ft. in diameter; a white hickory, 40 ft.; a cork tree, 40 ft.; *Quercus álba*, 60 ft.; and *Pinus Pináster*, 60 ft.

In the Duke of Northumberland's grounds at Syon are, *Magnòlia acuminata*, 46 ft.; *M. gláuca*, 19 ft., with a trunk 10 in. in diameter, and a compact head, the circumference of the branches 60 ft.; perhaps the largest *Ácer créticum* in England, the tree being 28 ft. high, trunk 2 ft. in diameter, and the diameter of the branches 45 ft.; *A. rùbrum*, 68 ft.; *Pàvia flàva*, 40 ft.; *Kölreutèria*, 20 ft., but with the trunk and branches nearly double the size of those of the tree at Fulham; *Ailántus glandulosa*, 70 ft. high, trunk 3 ft. in diameter; *Gymnócladus*, 54 ft.; *Gledítschia inermis*, 72 ft.; *G. hórrida*, 47 ft.; *Robínia Pseùd-Acàcia*, 81 ft.; *Láurus Sássafras*, 40 ft.; *Mòrus álba*, 45 ft.; black and white hickory, each 79 ft.; *Pópulus monilífera* (the black Italian poplar), 102 ft.; *P. angulata*, 83 ft.; *Córylus Colúrna*, 61 ft.; *Quercus Phéllus*, 64 ft.; *Q. rùbra*, 57 ft.; *Q. cocínea*, 77 ft.; *Q. Leucombeàna*, 65 ft.; *Q. Cérris*, 70 ft.; *Q. Flex*, 67 ft.; *Fàgus cùprea*, 71 ft.; *Liquidámbar*, 59 ft.; deciduous cypress, 68 ft.; *Cupréssus sempervirens strícta*, 52 ft.; and some magnificent cedars, the largest of which (a silver cedar) measures 77 ft. in height, with a trunk 5 ft. 6 in. in diameter. This is one of the finest cedars in the neighbourhood of London.

At Kew there are, a tulip tree, 70 ft.; *Ácer rùbrum*, 40 ft.; *A. eriocárpum*, 50 ft.; *Tília álba*, 65 ft.; and a very fine *Kölreutèria*.

In the Earl of Mansfield's grounds at Kenwood are some very fine American oaks; a Portugal laurel, 30 ft. high; *Amelánychier sanguínea*, 28 ft. high; *Làrix microcárpa*, 95 ft. high; and the largest cedar in the neighbourhood of London. This fine tree

is 90 ft. high, the diameter of the trunk is 4 ft. 5 in., and that of the branches 40 ft. At Mount Grove, the seat of T. N. Longman, Esq., there are two finely grown spreading cedars; a tulip tree, 70 ft. high; and a magnificent *Plátanus orientàlis*, 77 ft. high. At Upton, S. Gurney, Esq., there are, a Lombardy poplar, 120 ft. high; a *Cuprèssus sempervirens* var. *horizontalis*, 40 ft.; and a *Kölreutèria paniculàta*, 40 ft. high. At Ridgway House, formerly the seat of Peter Collinson, there are some red cedars, from 30 to 40 ft. high.; a weeping willow, 60 ft.; an upright cypress, 40 ft.; a hemlock spruce, 50 ft.; a large box, 15 ft. high; and two fine trees of *Pinus Cembra*, nearly 2 ft. in diameter, and from 50 ft. to 60 ft. high. At Mitcham, formerly the residence of Charles Dubois, Esq., there are, a remarkably fine nettle tree, with branches extending 40 ft. or 50 ft.; a large *Pináster*, above 60 ft. high; and an old mulberry, besides several other fine specimens.

At Purser's Cross, the seat of Lord Ravensworth, there is the largest *Salisbùria* in England, and, probably, in Europe. Its height is about 60 ft., and its girt 5 ft. 2 in.: there is another very nearly as large. In the same grounds are some deciduous cypresses from 70 ft. to 80 ft. high, one of which has now (May, 1835) a great quantity of male and female blossoms and cones; a very old *A'rbutus U'nedo*; an *Andrómeda arbòrea*, 18 ft. high, and 22 in. in girt; a *Halèsia tetráptera*, above 20 ft. high; *Ptèlea trifoliàta*, 25 ft. high; and one of the original Lombardy poplars brought to England by Lord Rochefort. There are many other fine old trees, of large dimensions, and growing with great vigour; and many young ones, which have been planted by the present proprietor. One of these, a cedar of Goa, has attained the height of 12 ft. in five years.

In the Surrey Zoological Gardens there is a flourishing arboretum, consisting of about 220 young trees, and some fine ones which have been planted about 22 years. Among the latter is a *Catálpa syringæfòlia*, which flowered last year for the first time: its height is 18 ft.; the diameter of the trunk, at a foot from the ground, is 9 in.; and the diameter of the space covered by the branches is 16½ ft. The next tree deserving of notice is the *Cratægus Crús-galli* var. *salicifòlia*, about 12 ft. high; the diameter of the trunk, 8 in.; and the diameter of the space covered by the branches, 22 ft. The next is *Sàlix babylónica*, 60 ft. high, with a trunk 2 ft. 2 in. in diameter, and the branches covering a space the diameter of which is 47 ft. There is also a *Plátanus orientàlis*, 60 ft. high. All these trees have been planted only 22 years.

ART. VI. *A List of Trees, with their Prices in the London Nurseries, for planting an Arboretum on a comprehensive Scale with the smallest Number of Plants, viz. with 298 Trees, which will cost about 30l.* By the CONDUCTOR.

So many of the names in the nurserymen's catalogues stand as those of species, while, in fact, they are only those of varieties, or are synonymous, that we think we shall be rendering a service to those who intend planting arboretums this season, by giving a list of trees, which, according to our opinion, will comprehend almost all the species procurable in the London nurseries, and also some of the best and most distinct varieties.

The number of names at present in some of the London nursery lists is so great, that we believe it operates both against the nurserymen and those who would become purchasers. Some are in despair of ever acquiring such a number of sorts, from an idea of the sum they would cost; and others are deterred from planting an arboretum, from an idea of the great space it would require to contain such a multitude of trees, and the expense of keeping them up afterwards. There is a third class of persons, and among them are many professed gardeners, who are frightened at the idea of being required to distinguish so many species from one another, and perhaps are conscious of a deficiency of knowledge in the names of trees and shrubs. All these causes, and others that might be mentioned, operate as a great bar to the sale of collections of trees, and the planting of arboretums. If we can show, therefore, that a very complete arboretum may be planted with from 250 to 300 trees, and at an expense of purchase of from 25*l.* to 30*l.*, we think we shall have rendered service both to the country gentlemen and the nurserymen. We cannot, however, in this paper, give our reasons for considering certain sorts which many believe to be species, or which might be supposed species from looking at the way in which their names are placed in catalogues, as merely varieties. We shall do this in our *Arboretum Britannicum*; and to that work, when it is completed (which we hope will be the case in June next, instead of in December, 1836, as we originally proposed), we must refer those who have not faith in our opinions.

It must not be supposed, while we contend for limiting the species, that we deny the distinctness of many of the varieties: as well might we pretend to say that all the garden varieties of the apple and pear were exactly the same thing as the crab, and should be neglected accordingly. All that we wish is, that varieties should not be passed off as species; partly to simplify the business of planting arboretums, and partly to prevent gardeners and others from puzzling themselves to find specific distinctions, when, in reality, none exist. It is this rage for making species, and parade of nice technical distinctions, which, with many, has

turned practical botany into ridicule. According to our ideas of a species, there is none which may not be distinguished, as such, in the seed before it is sown, and in the infancy and maturity of the plant, and at every season of the year. We are aware that this will not be agreed to by many acute botanists; but we shall hereafter, in the *Arboretum Britannicum*, explain ourselves at length, and trust to the common sense of our readers.

There is one difficulty attending the following list, which we must not conceal from our readers; it is, that there are not two gardens or nurseries in the neighbourhood of London, in which the same names are applied to the same things. This applies more particularly to the genera *Tília*, *Gleditschia*, *Pyrus*, *Cratægus*, *Fraxinus*, *Ulmus*, *Salix*, *Pópulus*, *Alnus*, *Bétula*, *Cárpinus*, *O'strya*, *Quércus*, *Fágus*, and *Pínus*.

If the Horticultural Society had acted as judiciously and actively with respect to the trees in their arboretum, as they have done in the case of their fruit trees in the orchard, that garden might have been referred to as a standard; but at present the names in it are, in many instances, and in particular in all the genera above mentioned, not more accurate than they are in some of the nurseries.

Notwithstanding this however, the purchaser will, in general, find the names of most of the species in the following list correct; and he must trust to time, and an increasing knowledge of the subject among gardeners and nurserymen, for the rest.

Those species or varieties which are rather scarce are distinguished in the following list by a star. They are still, however, procurable in some nurseries, at moderate prices, though we cannot state exactly what these prices are. Some genera, as *Acácia* and *Eucalýptus*, we have omitted, as being too tender for the country in general; and others, as *Araucária* and *Al-tíngia*, as being too dear.

- Magnòlia grandiflòra*, 3s. 6d. to 5s.;
g. exoniensis, 5s. to 10s. 6d.; *acuminàta*, 5s.; *cordàta*, 7s. 6d.; *auriculàta*, 10s. 6d.; *tripétala*, 3s. 6d.; *conspícua*, 5s.; **macrophylla*, 1l. 1s.
Liriodéndron Tulipífera, 1s. 6d.
Tília europæa, 6d.; *parvifolia*, 1s. 6d.;
e. grandiflòra, 1s. 6d.; *americàna glàbra*, 1s. 6d.; **amer. rugosa*.
A'cer tatàricum, 1s. 6d.; *spicatum*, 1s. 6d.; *striatum*, 1s. 6d.; **macrophyllum*, 1s. 6d.; *platanòides*, 1s.; *saccharinum*, 1s.; *Pseudò-Plátanus*, 6d.; *trilobatum*, 2s. 6d.; *O'palus*, 1s. 6d.; **circinatum*; **palmatum* (not *A. plat. laciniatum*, as in some nurseries); *rùbrum*, 1s.; *eriocàr-pum*, 1s.; *monspessulanum*, 1s. 6d.; *campèstre*, 6d.; **créticum*.
Negúndo fraxinifolium, 1s.
Æ'sculus Hippocàstanum, 6d.; *Æs. Pàvia rùbra*, 2s. 6d.; *Æ. P. rubicúnda*, 2s. 6d.; *Æ. P. flàva*, 2s. 6d.
Kölreutèria paniculàta, 2s. 6d.
Xanthòxylum fraxineum, 1s. 6d.
Ptèlea trifoliàta, 1s. 6d.
Ailántus glandulosa, 1s. 6d.
Euonymus europæus, 6d.; *latifolius*, 1s.
I'lex Aquifolium, 1s.; *opàca*, 3s. 6d.; **baleárica*.
Paliùrus aculeatus, 1s. 6d.
Rhámnus cathárticus, 1s.; *Frángula*, 1s.; *latifolius*, 1s.; *alpinus*, 1s.
**Aristotèlia Mácqui*.
Sophòra japónica, 2s. 6d.; **j. pén-dula*, 5s.
Virgília lùtea, 5s.

- Cytisus Labúrnum*, 6d.; *álpinus*, 6d.; *a. pëndulus*, 3s. 6d.
Robinia Pseud-Acacia, 6d.; *P.-A. viscösa*, 1s. 6d.; **P.-A. umbraculifera*; *hispida*, 1s.
Caragana arborëscens, 2s. 6d.
Gleditschia triacanthos, 1s.; *hórrida*, 3s. 6d.; *inermis*, 2s. 6d.; *orientális*, 2s. 6d.; *chinénsis*, 3s. 6d.; **japónica* Lodd.
Gymnocladus canadénsis, 2s. 6d.
Cercis Siliquastrum, 1s. 6d.; *canadénsis*, 1s. 6d.
Amýgdalus communis, 1s. 6d.; *c. macrocarpa*, 3s. 6d.
Pérsica vulgàris, 1s. 6d.
Armeniaca vulgàris, 1s.
Prunus spinösa, 1s.; *insitítia*, 1s.; *cerasífera*, 1s. 6d.
Cérasus àvium, 1s.; *Pàdus*, 1s.; *virginiàna*, 1s.; *nigra*, 1s. 6d.
Cratægus coccínea, glandulösa, **subvillösa*, punctàta, *macracantha*, *pyrifölia*, *Crús-gállì*, c. g. *pyracanthifölia*, c. g. *ovalifölia*, c. g. *prunifölia*, *nigra*, *purpürea*, **Douglasi*, *flàva*, *lobàta*, *trilobàta*, *apiifölia* *màjor*, *cordàta*, *spathulàta*, *Azarölus*, *Arönia*, *odoratíssima*, *tanacetifölia*, *heterophýlla*, *oxyacanthöides*, *Oxyacantha*, *O. sibírìca*, *O. laciniàta*, *O. eriocarpa*, *O. Oliveriàna*, *O. melanocarpa*, *O. flàva*, *O. ròsea*, *O. flòre plèno*, *O. strícta*, *O. pëndula*, *O. præcox*; *mexicàna*.
The price of all these species is 1s. 6d. each for dwarfs, or newly grafted plants, and 2s. 6d. each for standards.
Photínia serrulàta, 2s. 6d.
Cotoneáster affinis, 2s. 6d.; *frígida*, 2s. 6d.; **nummulària*, **acuminàta*.
Ameláncier vulgàris, 2s. 6d.; *Botryápium*, 2s. 6d.; *ovàlis*, 2s. 6d.; *flórida*, 2s. 6d.; *sanguínea*, 2s. 6d.
Méspilus germànica, 2s. 6d.; *grandiflòra*, 2s. 6d.
Pýrus communis, *salicifölia*, *nivàlis*, *sinàica*, **variölösa*, *bolwylleriàna*.
Màlus vulgàris, *prunifölia*, *coronària*, *spectàbilis*, *angustifölia*.
Sórbus doméstica, *aucupària*, *americàna*, *hybrida*, *spùria*.
Aria integrifölia, *torminàlis*, *hybrida*.
All the species of *Pýrus*, *Màlus*, *Sórbus*, and *Aria* are charged 1s. 6d. each for dwarfs, or newly grafted plants, and 2s. 6d. each for standards.
Cydonia vulgàris, 1s. 6d.; *sinénsis*, 2s. 6d.
Córnus más, 6d.; *flórida*, 1s.; *álba*, 6d.; *sanguínea*, 6d.
Sambucus nigra, 1s.; *n. racemösa*, 1s.
Viburnum pyrifölium, 1s.; *Lantàna*, 6d.
Arbutus Uredo, 1s.; *hybrida*, 3s. 6d.
Halësia tetráptera, 1s. 6d.; *díptera*, 2s. 6d.
Diospýros virginiana, 1s. 6d.; *Lötus*, 1s. 6d.
Fráxinus excélsior, 6d.; *e. pëndula*, 1s. 6d.; *e. parvifölia*, 2s. 6d.; *americàna*, 1s. 6d.; **a. quadrangulàris*, **lentiscifölia*.
Órnus europæa, 2s.
Catálpa syringæfölia, 1s. 6d.
Laúrus nobilis, 1s. 6d.; *Sássafras*, 5s.
Nýssa aquática, 3s. 6d.
Hippóphæa rhamnöides, 6d.; *r. angustifölia*, 1s.
Elæagnus orientális, 1s. 6d.
Búxus sempervirens, 6d.; *baleárica*, 1s. 6d.
Ficus Cárìca, 1s. 6d.
Maclùra aurantiaca, 2s. 6d.
Broussonëtia papyrifera, 2s. 6d.
Mòrus álba, 1s. 6d.; *nigra*, 2s. 6d.; **pennsylvànica*.
Plánera Richárdi.
Ulmus campestris, 6d.; **c. effüsa*, *c. rugösa*, *c. suberösa*, *montàna*, *m. fastigiàta*, *americàna*, and *planerifölia*, 1s. 6d. each; *a. pëndula*, 2s. 6d.
Céltis austràlis, 1s. 6d.; *occidentális*, 1s. 6d.
Juglans règia, 1s. 6d.; *nigra*, 1s. 6d.; *cinèrea*, 1s. 6d.
Càrya álba, *sulcàta*, *olivæförmis*, *squamösa*, *porcina*, and *laciniösa*, 1s. 6d. each.
Sàlix babylónica, *álba*, *frágilis*, *vitellina*, *pentàndra*, &c., 1s. each.
Pópulus álba, 1s.; *trémula*, 6d.; *t. græca*, 1s.; *nigra*, 6d.; *monilífera*, 1s.; *dilatàta*, 1s.; *angulàta*, 1s. 6d.; *macrophýlla*, 1s. 6d.; *balsamífera*, 6d.
Álnus glutinösa, 6d.; *g. incàna*, 1s. 6d.; *g. laciniàta*, 1s. 6d.; *g. grossulariæfölia*, 1s. 6d.; *cordàta*, 1s. 6d.; **serrulàta*, 2s.
Bétula álba, 6d.; *papyràcea*, 1s.; *carpinifölia*, 1s. 6d.; *angulàta*, 1s. 6d.
Cárpinus Bétulus, 6d.; **B. americàna*, 1s.

Ostrya vulgaris, 1s.; * *v. americana*, 2s.

Corylus Colurna, 1s. 6d.

Quercus sessiliflora, 6d.; *pedunculata*, 6d.; *Cerris*, 6d.; *Turneri*, *Lucombeana*, *fulhamensis*, and all the other varieties, 3s. 6d.; *Ilex*, 1s. 6d.; *I. Ballota*, and all the varieties, 5s.; *Süder*, 2s. 6d.; *gramuntia*, 3s. 6d.; *coccifera*, 2s. 6d.

American oaks are chiefly of two kinds: those with scaly-barked trunks, which are white oaks; and those with smooth-barked trunks, which are red oaks. All the acorns or plants that can be got of either sort ought to be sown or planted, as the varieties are all beautiful, and many of them are very distinct. *Q. Prinus*, 1s. 6d.; *Phellos*, 1s. 6d.; *virens*, 3s. 6d.; *Banisteri*, 2s. 6d.

Fagus sylvatica, 6d.; s. *purpurea*, 1s. 6d.; s. p. *péndula*, 2s. 6d.; s. *americana*, 2s. 6d.

Castanea vesca, 6d.

Platanus orientalis, 2s. 6d.; *occidentalis*, 6d.

Liquidambar styraciflua, 1s.; *imbérbe*, 1s. 6d.

Salisburia adiantifolia, 3s. 6d.

Taxus baccata, 1s.; * *b. fastigiata*.

Taxodium distichum (*deciduous cypress*), 1s. 6d.; * *d. pendulum*.

Juniperus communis, 1s.; *virginiana*, 1s. 6d.; *phoenicea*, 1s. 6d.

Thuja occidentalis, 6d. to 1s. 6d.; *orientalis*, 1s. to 1s. 6d.

Cupressus sempervirens, 1s. 6d.; s. *horizontalis*, 2s. 6d.; *lusitanica*, 2s. 6d.; *thyoides*, 3s.

Cunninghamia lanceolata, 5s.

Pinus sylvestris, 6d.; *Laricio*, 2s. 6d.;

Pinaster, 6d. to 1s.; * *taurica*;

Pinea, 6d. to 1s.; *halepensis*, 2s. 6d.;

Ströbus, 2s. 6d.

Picea vulgaris, 6d.; *Fraseri*, 2s. 6d.;

* *Douglasi*, 10s. 6d.; *balsamifera*,

6d.; *canadensis*, 1s. 6d.; * *Webbiana*, 1l. 1s.

Abies excelsa, 6d.; *alba*, 6d.; *rubra*, 1s.; *nigra*, 1s.; * *Morinda*, 10s. 6d.;

* *Menziessii*.

Larix europæa, 6d.; e. *péndula*, 1s.

Cedrus Libani, 2s. 6d.; * *Deodara*.

The above enumeration may be considered as comprising about 300 plants, which may be purchased, of the smallest size, for between 25*l.* and 30*l.*; not including, however, those marked *.

ART. VII. Notice of some remarkably large Trees in Van Diemen's Land, with Notices respecting some Trees which have stood the English Winters in the Neighbourhood of York. Communicated by Mr. THOMAS BACKHOUSE.

As mention is made, in some of the late Numbers of the *Gardener's Magazine*, of the probability of the Van Diemen's Land trees being sufficiently hardy to bear the cold of the climate in the open air in this country, I beg to state that, during the last winter, which here has not been remarkable for its mildness, my plants of *Eucalyptus* have stood remarkably well, and are now growing very luxuriantly. The species appears to me to be the *Eucalyptus robusta*.

I have this year sown the seeds of several species of them, as well as of other trees and shrubs which were collected at a considerable altitude on Mount Wellington, and some other exposed situations, in Van Diemen's Land; and I hope to be able, in a few years, to prove their hardiness; for, from their being evergreens, they will in winter be valuable auxiliaries in park scenery. The *Eucalyptus robusta*, or stringy bark tree, grows to gigantic size in some parts of the island. Ten trees, which my

brother measured near the Emu river, he describes as follows: they are all measured at 4 ft. from the ground:—No. 1., 45 ft. in circumference; supposed height 180 ft. The top broken, as is the case with most large-trunked trees; the trunk a little injured by decay, but not hollow. This tree had an excrescence at the base 12 ft. across and 6 ft. high, protruding about 3 ft. No. 2., $37\frac{1}{2}$ ft. in circumference. No. 3., 38 ft. in circumference; distant from No. 2. 80 yards. No. 4., 38 ft. in circumference; distant from No. 3. 50 yards. Nos. 3. and 4. were fine sound trees, upwards of 200 ft. high. No. 5., 28 ft. in circumference. No. 6., 30 ft. in circumference. No. 7., 32 ft. in circumference. No. 8., 55 ft. in circumference; very little injured by decay; and upwards of 200 ft. high. No. 9., $40\frac{1}{2}$ ft. in circumference; sound and tall. No. 10., 48 ft. in circumference; tubercled; tall; some cavities at the base; much of the top gone. A prostrate tree near to No. 1. was 35 ft. in circumference at the base, 22 ft. at 66 ft. up, 19 ft. at 110 ft. up; there were two large branches at 120 ft.; the general head branched off at 150 ft.; the elevation of the tree, traceable by the branches on the ground, was 213 ft.—*York, May 13. 1835.*

ART. VIII. *Additional Considerations on the Causes of Disease in the Larch Tree in Britain.* By Mr. JAMES MUNRO.

IN my first communication (IX. 551.) on the diseases of the larch tree, I have thrown out a few hints as to the probable causes of them; and have particularly pointed out that which I conceive to be a capital error in planters; namely, their planting out one-year transplanted, or one or two years' seedling, plants: and I now farther remark that such trees, being unprovided with a most essential requisite, viz. a root sufficiently furnished with fibry collectors of nutritious matter, are consequently destitute of the capability of perfecting the annually accumulated accretion of wood. I have already noticed the possibility of a too extensive deposit of alburnous matter, for the first ten or fifteen years, as having some connexion with the decay of the heart-wood; and I think I am borne out in this statement by Mr. Knight, who, in his letter to G. I. T., in the *Quarterly Journal of Agriculture* for Sept. 1833, p. 549., when speaking of the manner in which the true sap, or blood, of the plant is disposed of, states that "this fluid descends by the bark; by which, or rather by its glandular lining, the matter of alburnum is deposited; and that which is not thus expended sinks into the alburnum, and there, in part, joins the alburnous current. I say in part, because a part is expended in giving additional solidity to

the sap-wood of former years ; and in converting part of that into heart-wood ; and in giving increased solidity to the heart-wood previously formed." Now, if, by over-vigorous or too rapid and unnatural growth, that part of the true sap, or blood, of the plant destined to give additional solidity to previous formations should be diverted from its appointed purpose, or if the annual deposit for the first ten or fifteen years should exceed, say, one third of the subsequent deposits, a diminished quantity of true sap naturally follows ; and, with that, a diminution of that part of this fluid which is appointed to consolidate the previously formed heart-wood. If this view of the matter be correct, the inference is, that the destruction of the heart-wood is attributable to the too vigorous or rapid growth of the tree.

I have also pointed out the practice of over-crowding of our plantations, as one productive of baneful effects on the health of the trees ; and I am really of opinion, so far as it regards this practice with larch, that it is, perhaps, more hurtful to it than planters may at first suppose. Nature, in her government of the animal and vegetable kingdoms, has assigned to every species its particular situation ; and it may be, and, no doubt, is, true, that the proper food for bringing the larch to maturity is less plentiful in this country than in that of which it is a native. How improper, then, is the prevailing custom (and, I may say, general rule) of crowding an acre with 4000 plants, whatever may be the quality of the soil ? What should we think of a grazier who would put 4000 cattle into fields barely sufficient to keep half or a third of that number ? Should we not conclude that he knew nothing of his profession ? The cases are exactly similar ; only the effects are not so soon visible in the one instance as they are in the other. Some may think this argument far-fetched and overstrained ; but take it in connexion with already established facts, and it will not, by any means, appear so. The whole of what are termed the original larches, which were planted out solitarily, in pairs, or in groups, or such as were dispersed over the ground at the rate of from twenty-five to fifty plants per acre, are living evidences of the advantages of thin planting, or, what is tantamount thereto, judicious and timely thinning. In fact, since I have begun to study this subject more closely, it has become a question with me, whether we should continue keeping plantations with the trees thinned out to regular distances, which certainly has the effect of preventing all the interior of the forest from receiving a due proportion of atmospheric influence ; or whether, in the case of an extensive plantation, we should not rather throw it all into groups of from fifty to a hundred trees each, and cause it to be intersected with avenues from every point. A free current of air would thus be admitted to the very core ; the intersecting glades would afford excellent shelter and winter pasturage for cattle ; and, the trees being completely open

to the action of the atmosphere, the groups might be allowed to be somewhat thicker of trees than when, as in uninterrupted plantations, they are thinned out to regular distances of from 8 ft. to 12 ft.

Another of the errors committed by planters of the larch is, it is my decided opinion, that of slitting in the plants, instead of pitting them. Slitting them, I am convinced, is attended with fatal consequences. In pitting, the plant, being inserted into a space of loosened soil, the roots naturally extend themselves horizontally; as in that direction there is no obstruction, such as the hard bottom of the pit offers. On the contrary, when a plant is inserted in the earth by the slit, and properly fixed by treading the ground, it is so firmly compressed on each side of the root, that the fibres are forced downward, and must find less obstruction in taking a perpendicular than a horizontal direction. Thus the taproot, or its substitutes, penetrate into a cold and unproductive subsoil: unproductive, I should observe, only in its being more remotely situated from the influence of the maturing agents. With the larch plant so situated, it need not be at all surprising that it should fail in perfecting its new wood; for, so long as the roots find an unlimited supply of moisture (which must at all times be the case while they have this direction), and greater in degree in proportion as they are more remote from the surface, so long will that plant be kept in a growing state; until finally checked by the approach of winter, when a partial derangement in the system of the alburnous current must take place.

Shortly after I had despatched my previous communication, I, by mere accident, came into possession, through the kindness of a proprietor in this neighbourhood, of documents strongly corroborative of the points I have there advanced on the causes of disease in the larch. It will be remembered that some of my hints regarding the mode of treating larch trees, by the first planters of them in this country, were purely suppositive. These hints, however, as will be shown, turn out to be facts: and I here crave permission to refer the reader to an account of the larch plantations of Athol and Dunkeld, published in the *Quarterly Journal of Agriculture* for March, 1832; wherein it is stated (p. 171.) that "the greatest obstacle to the progress of the Duke of Athol's planting was the scarcity, and consequent dearness, of the larch plants; which at that time were selling in the nursery grounds as high as 6*d.* a plant, three and four years transplanted." Again, in p. 173., we are informed that, about this period (1774), larch fell in price from 6*d.* each to 35*s.* per thousand, two and three years transplanted, and ranging from 2 ft. to 2½ ft. high. Even so late as 1791, His Grace seems to have continued planting out larches of a large size; for, in

this same page, we are told that 680 acres of planting were finished, the pitting of which alone cost 10s. 6d. an acre. It hence appears that 1774 was the period at which the planting of larches of a smaller size, and of two and three, instead of three and four, years transplanted, was commenced; with which latter size the first plantations about Dunkeld were filled up; and I have not the slightest doubt that it is some of those of His Grace's plantations, which were planted subsequently to 1791, that are alluded to in the paper of G. I. T., in the *Quarterly Journal of Agriculture* for Sept. 1833, p. 550. In that communication, a letter from Dunkeld is quoted, the writer of which says, — "I am sorry to have to inform you that, in many situations, the larch is decaying here before it arrives at a large size; and more especially in moist situations." Now, this is an admission that in no situation is the larch exempt from decay; although it is more especially subject to it in moist ones. Indeed, it is plain, from the statement in this letter, that it is the younger plantations on these estates which are suffering; for it is mentioned distinctly that the larch is decaying before it arrives at a large size. Why is it thus with these plantations, while the previously planted ones are in a prosperous condition? and while, let it be particularly kept in view, the distance between, and the variation of climate, are so trifling as hardly to deserve consideration. The disease does not seem confined to any particular locality; for it is stated that it has commenced "in many situations." Can any man, open to conviction, maintain that the disease is altogether caused by the soil, when he finds that the same acre, nay, the same square yard, produces, in some instances, both a sound and an unsound tree?

At p. 175. of the account of these plantations, it is seen that, in 1800, His Grace took a still bolder step aside from his accustomed mode of treatment: it is here stated that (alluding to sundry new plantations), "from a different mode of planting being adopted, and the selection being of plants of an earlier age (an account of both of which will afterwards be given), the cost of fencing and planting this extensive range of ground did not exceed 10s. 6d. an acre." Now, let the plantations here alluded to undergo a close examination, and it will be found that disease increasingly prevails with the adoption of "plants of an earlier age." In the account which is afterwards given of this new mode of cheap planting which His Grace adopted (see p. 182.), the writer enters upon a brief defence of the new system, apparently on account of its comparative cheapness, and the comforting reflection that a seedling, or a one year transplanted tree, when inserted into a slit in the ground, takes immediate hold of the mould below, and grows onward, without molestation from the weather. He denounces pitting, as producing the reverse effect. Planting by the pit mode requires

twenty men to plant an acre in a day ; whereas two men will do the same work (plant the same space of ground) in the same time, with the spear mode of planting. Another fault of the pit is, its aptitude to collect rain water or melted snow, by which the roots of the plants become chilled : three and four years transplanted plants “ may be so chilled in this manner as to prevent their pushing out a shoot, 2 in. in one season, for several years.” Be it so : and were not all the larches that were planted about Dunkeld, previously to 1774, of the above description, and treated in the same manner ? (See p. 171—173.) And how stand they, compared with such as have been planted since that period ? Among the latter, disease has commenced “ in many situations ;” while the former are the boast, not only of the county, but of the island in which they grow.

It is worthy of remark, that few or none of the early planted specimens of larch have been found to decay, although planted on soils of the most opposite natures. Within sixteen miles of Brechin, there are three trees which, although not very handsome, in consequence of their being much exposed to the blast, are, nevertheless, in a thriving condition, growing in a very dry situation ; one of which has attained a good size. At Brechin Castle, in a rich deep lawn, there was a fine specimen cut down some twenty years ago ; a thin slice from the root end of which forms a rustic seat by one of the private walks, and shows the diameter to have been 4 ft. There are, or, at least, there were, two, or, as reports say, three, at Scone House, in a similar soil to that of those at Brechin Castle ; and I believe that there are others to be met with in various parts of the country : but in no instance that I am aware of have any of the original larches, which have been cut down, been found unsound in the heart-wood. I may be told that the first specimens of larch would be planted, as a matter of course, on the best soil which the planter could find ; and this is, no doubt, true ; and it appears to have been the case at some of the places here mentioned ; but it appears, in p. 161. of the *Quarterly Journal of Agriculture* for Sept. 1833, that His Grace the Duke of Athol planted five larches in the lawn at Dunkeld, in an alluvial gravelly soil, abounding with round stones, two of which are still growing in great vigour ; and that one is 11 ft., the other 12 ft., in girth, at 4 ft. from the ground. Of the other three, two were cut in 1809, one of which contained no less than 168 cubic feet of timber. Here is a startling fact, indeed, for those who contend that the cause of the rot in larch is an uncongenial soil. Here, upon an alluvial gravelly soil, abounding with round stones, possibly at one time the bed of the river, may be seen these gigantic patriarchs of the tribe, growing with great vigour, and, as it were, frowning defiance to the supposed disadvantages of their particular locality.

Now, if we are to come to conclusions condemnatory of the soil, how are we to extricate ourselves from the labyrinth of anomalies which present themselves? In the note quoted, in IX. 554. of this Magazine, from Sir William Jardine, we are told that "the larch is very soon lost, when planted above a subsoil of red sandstone: in the Vale of Annan, where even the sloping banks have a substratum of this rock, or one composed of a sort of red sandstone, shingle, or gravel, the outward decay of the tree is visible at from fifteen to twenty-five years of age." In the *Quarterly Journal of Agriculture* for Sept. 1333, in a correspondence on the decay of larch, between His Grace the Duke of Portland and G. I. T., there is, in p. 551., this observation from His Grace:—"I see larches grow luxuriantly where all the good soil has been taken away; and I also see that they are very much benefited by the good preparation and improvement of the soil previously to their being planted." In the same paper, we have, in p. 150., a statement, from an eyewitness at Dunkeld, admitting that the larch is decaying in many situations, especially in a moist one. Again, the Duke of Portland, in p. 148., says, in his letter to G. I. T., that "it [the decay] has been found in many soils, both wet and dry; to the latter I speak most particularly." In p. 552., Mr. Gorrie is quoted thus:—"The larch has been found to decay, and also to remain unaffected by disease, in almost every species of soil: this being the case, we are led to suppose that the rot in larch takes its rise from something accidental, rather than from any natural property in the soil." And Mr. Gorrie is, in my opinion, quite correct in his conclusion. A sound and an unsound larch may be found on the same square yard, in any species of soil in which larch trees have been planted, since plants of an earlier age were adopted. The superficial observer may ask, if I attribute the origin of the disease to the mode of treatment more than to the nature of the soil, how it is that, if two seeds be taken from the same cone; sown, and grown in the same square inch of ground; transplanted therefrom into the same nursery line; lifted and planted on the same day, on the same square yard; I say, I may be questioned as to where the difference lies in the treatment of these two trees, and how it is that the one is sound, and the other not; since, according to my former view of the matter, both ought to be sound, or both unsound. My answer to such enquiries is, that, with regard to the sound tree, the cause is some accidental circumstance; while, in the case of the other, it is a natural consequence. The accident may accrue through various agents, such as the manner in which the plant was inserted in the earth; a large stone, or other hard substance, under the surface, may have prevented the roots from taking a downward direction; or the root may have found a horizontal

course more accessible than a course in another direction. On the other hand, the root of the unsound tree has not, probably, met with any obstruction to its progress downward, and has, accordingly, penetrated into a cold and unproductive subsoil (which, as I have already said, may only be so from its remote position from the maturing agents): the consequence of this is, that the growth of the tree is postponed to a late period of the season, when the wood formed cannot, by the common course of nature, be completed and perfected.

To show still more clearly that the soil is but very remotely, if at all, connected with the cause of the rot, I shall again direct attention to the plantations at Dunkeld: see *Quarterly Journal of Agriculture* for March, 1832, p. 170. It is there stated, that Duke James, between 1740 and 1750, planted 873 larches, in a sheltered situation, among limestone gravel, which was worth from 20s. to 30s. an acre, at an elevation above the sea not exceeding 560 ft. In 1759, His Grace planted 700 larches over a space of 29 acres. This plantation extended up the face of a hill, 200 ft. to 400 ft. above the level of the sea; the rocky ground of which it was composed was not worth 60s. a year altogether; it was covered with loose and crumbling masses of mica slate: but, notwithstanding this, a larch was cut out of this plantation by the late duke, in 1816, aged 57 years, which contained 74 cubic feet of timber. Again, we learn, in p. 175., that the late duke planted 1600 acres, in soil situated from 900 ft. to 1200 ft. above the level of the sea, and presenting the most barren aspect; inso-much that it was strewed with fragments of rock, and scarcely any kind of vegetation existed upon it. "To endeavour to grow ship timber," remarks His Lordship, "among rocks and shivered fragments of schist, such as I have described, would have appeared, to a stranger, extreme folly, and money thrown away."

Now, I would ask such as contend that the diseases of the larch originate in the tree's imbibing matter of a deleterious nature from the soil or subsoil, how they can reconcile such a mass of contradictory evidence as has been already quoted? An alluvial gravelly soil at Dunkeld, it appears, is capable of producing larch trees little short of a hundred years of age, still growing in great vigour, and containing nearly 200 cubic feet of timber. At Blair, at 500 ft. above the level of the sea, eleven of the original larches measured, in 1817, from 8 ft. to 12 ft. in girth. In short, with regard to every plantation of larches made previously to 1786, whether in rich lawns, gravelly soils, rocky ground covered with crumbling masses of mica slate and limestone gravel, or, as described in p. 173. of the *Quarterly Journal of Agriculture*, even on the rocky summit of Craig-y-barns, among the crevices and hollows of the rocks, wherever the least soil could be found, and at an elevation where none of

the larger kinds of the natural shrubs were growing, so as to render a clearing of them necessary, preparatory to the planting of the larches; in no one of these different plantations has disease been detected; while, on the other hand, in plantations formed subsequently to this date, and where plants of an earlier age have been adopted, and the slit mode of inserting them practised, failures have taken place, not only about Dunkeld, but in many other situations throughout the country.

There is a class of planters who attribute the present unhealthy condition of our larch plantations to atmospheric influence; an opinion grounded upon the sickly appearance which the plants, in many instances, exhibit in the course of the spring and summer months. Only a moment's reflection is necessary to explode this vague notion. We have now a numerous family of half-hardy trees and shrubs exposed to our variable climate, and it sometimes happens that these are partially injured by the severity of our winters. I remember a severe visitation of frost, upon the night of the 28th of May, some sixteen or eighteen years ago, which killed all the new-formed wood of an extensive collection of American and other shrubs; and even the hedges of beech suffered, as if by fire: yet these all recovered, and became good healthy plants afterwards. Now, should the larches suffer, at any time, by a similar visitation (as some affirm they did in 1801 or 1802), might we not reasonably expect that they, like other exotic plants, would resume their wonted verdure in the course of the following summer? Certainly they would.

I can see no good grounds for supposing that, when the larch exhibits a sickly hue and withered spray, this effect proceeds altogether from external agents: on the contrary, I think it is a consequence arising from previous internal disorganisation. I may here submit the same argument to those who imagine, with as little reason on their side, that the evil may be traced to the attacks of insects. In animal, as well as in vegetable subjects, it is seldom seen that those in robust health become the prey of vermin: and, therefore, we may rest satisfied that, whenever an attack is made by insects, it is an effect of a cause whose seat lies deeper than the surface.

With regard to the importation of seeds from the larch tree's native country, as a means of securing healthy larches, one established fact has come under my own observation, which, so far as it goes, suggests that we have very little to hope for from importation. About three weeks ago, a friend informed me that, upon the princely domain of Sir James Carnegie, Bart., of South Esk, there were a few larch trees growing, that were raised in this gentleman's private nursery from seeds imported from Switzerland; and which were alike the victims of disease with those raised from seeds of home growth. I, on learning

this, immediately addressed a note to Sir James Carnegie, soliciting leave to make a personal inspection of the trees ; and also permission to allude particularly to the plantations, should that be necessary, for the establishment of so important a fact. Sir James, in the most prompt and obliging manner, referred me, for the information required, to his able and intelligent forester, Mr. William Dorward ; who, in accompanying me to the spot where these larches are, stated that, when they were ready for planting out, about twelve or fourteen years ago, he had them apportioned to, and planted in, two different situations in the great deer park ; and that the plants in one of the plots had been completely annihilated by disease. The plot which I visited might have originally contained from 60 to 100 trees ; and a considerable number of these had been infected with that blistering or cancerous distemper which is so common to all the larches of their age in this part of the country. Mr. Dorward has, in the course of his thinning, very properly cut out most of the diseased trees ; yet, among those that remain, there are at least three or four that evidently show that their foreign origin by no means exempts them from liability to the disease to which the larch trees raised from British seeds are so subject.

In conclusion, I have only farther to say, that I am fully aware of the difficulty which men in general have in divesting themselves of opinions and practices to which they have long adhered ; and I am also aware that there are many men who can rise superior to their prejudices, and at once see anything which is meritorious in any system, although this system may be somewhat aside from the beaten path. Under this impression, it was my intention, on commencing this paper, to give a brief outline of what I consider the proper treatment of larch in all its stages, from taking the seed from the cone, to the planting the tree in the forest : but I fear I have already trespassed too far ; and I therefore propose to defer the fulfilment of this intention to a future opportunity.

Brechin Nursery, Dec. 1833.

ART. IX. *Floricultural and Botanical Notices of newly introduced Plants, and of Plants of Interest previously in our Gardens, supplementary to the latest Editions of the "Encyclopædia of Plants," and of the "Hortus Britannicus."*

Curtis's Botanical Magazine ; in monthly numbers, each containing eight plates ; 3s. 6d. coloured, 3s. plain. Edited by Dr. Hooker, King's Professor of Botany in the University of Glasgow.

Edwards's Botanical Register ; in monthly numbers, each containing


eight plates; 4s. coloured, 3s. plain. Edited by Dr. Lindley, Professor of Botany in the London University.

Sweet's British Flower-Garden; in monthly numbers, each containing four plates; 3s. coloured, 2s. 3d. plain. Edited by David Don, Esq., Librarian to the Linnæan Society.

The Pollen of Plants, taken and kept dry and from the Action of Frost for Years, retains its Power of Fecundating. — D. Beaton, under *Fuchsia*, in p. 582. of the present Number.

EMBRYO DICOTYLEDONOUS: COROLLA POLYPETALOUS.


XXIV. *Malvaceæ*.

- 2004a. SPHÆRALCEA *Hil.* (*Sphaira* [in Greek], a globe, *alcea* [in Latin], marsh-mallow." (G. Don's Gen. syst. of gard. and bot., i. 465.) Why not from the Greek *alcea*, a wild kind of mallow? This is in Smith's Schrevelius's Lexicon. Sphærálcea would be then wholly of Greek. Carpels disposed in a round head.) 16. 8. Sp. 7. and one variety. Synonyme, *Málva*, section 3, Sphæròma *Dec.*, in his Prod., i. 435.) [gard. t. 517
†17838 angustifolia *Hil.* narrow-leaved  pr 8 aus Pk Mexico 1780 C. s.l Maund's bot.

A plant which had flowered in a pot had but a single flower at "the axil of each leaf; but in the open border, where we now have it in beauty, it produces a cluster of them at each axil, and from two to four are usually expanded at once. Although a native of Mexico, we have found it quite hardy, and its suckers, which spread widely under ground, afford sufficient increase." (*B. Maund*, in his work, *The Botanic Garden*, October.) Is not this the only species of plant in *Malvaceæ* which produces "suckers which spread widely under ground"? — *J. D.*

Those of the species of *Málva* described in Loudon's *Hortus Britannicus*, to which Nos. 17835, 17836, 17837, 17838. 17842. are prefixed, are now deemed species of *Sphærálcea*; two other species and one variety are described in G. Don's *Syst.*; on No. 17835., see in *Gard. Mag.*, IX. 616.

XLVII. *Onagrariæ*.

1188. FUCHSIA. [1830? C p.1 Bot. reg. 1805
discolor *Lindl.* two-coloured  or 3? au R P Port Famine, in the Falkland Islands
— "It is difficult to distinguish it botanically from *gracilis* and *tenella*; yet it is decidedly different."
— *Lindley*.

"Remarkable for its compact bushy" manner of growth, its deep purple branches, its small very undulated leaves, and also for its being apparently more hardy than any other *fuchsia* yet in the gardens. For the latter reason we attach especial importance to it; for, by a judicious intermixture of its pollen with such beautiful plants as *F. cónica*, *globosa*, and its other more tender relatives, the whole race may probably be rendered capable of bearing the climate of Great Britain, and may thus become far more generally valuable than they yet are." (*Bot. Reg.*, Oct.)

Fuchsia, *Opinions and Facts on the Nature of the Relations of certain Kinds of, one to another, and Facts in relation to the Extent to which they will hybridise one with another.* — In the October number of the *Botanical Register*, Dr. Lindley has figured Mr. Low's *fuchsia* from Port Famine, and remarked that, "if we are asked to state in what respect this differs botanically from *F. gracilis* and *tenella*, we should find it very difficult to answer the question. The botanical difference, if any,

of all the Chilian fuchsias is very trifling:" and Dr. Lindley remarks that there are some "who consider the greater part of the Chilian fuchsias mere varieties of *F. macrostema*." Whoever considers this, considers the reverse of what is the fact. Their origin is still more singular in a botanical point of view. *F. macrostema*, in all likelihood, is as much a variety as any of them. *F. cónica*, *grácilis*, *tenella*, *virgata*, and many more varieties, or perhaps species, may be originated by fertilising the stigmas of *coccinea* with the pollen of *arborescens*; this I have proved three times over: and I have every reason to believe, though I have never proved it, that *F. macrostema* may be produced from the *cónica* fertilised by the pollen of *arborescens*. All the Chilian fuchsias will intermix freely with the *arborescens*, and, what is very singular, *F. arborescens* will not intermix with their pollen; at least, I have failed in several attempts to effect this. *F. excorticata*, impregnated with the pollen of either *cónica* or *globosa*, will produce fac-similes of *F. discolor*, or the Port Famine fuchsia; and the seedlings so produced will not flower till the second or third year, which is the case with *discolor*.

F. longiflora is now called the "long-legged impostor;" an unmerited stain brought on the character of this innocent family, through the imposition hoaxed on the public through the misnomer *longiflora*. If the less roguish name of *longepedunculata* had been adopted, in the first instance, for this variety, persons might have competed for the *longissime pedunculatum*, and saved their half-sovereigns into the bargain. *F. globosa* is certainly a variety from *cónica*, otherwise there is no use in the definition of the term. It will not reproduce itself from seeds, yet its pollen has the same effect in producing mixtures from other sorts, as that of *cónica*.

Now, the query is, are these fuchsias species, or varieties? The exact limits of species and varieties are so imperfectly understood, and so difficult to be defined, that many botanists throw such as are produced by artificial means into varieties. Should any of them be capable of reproducing themselves, they are said to revert to either of their parents at the third or fourth generation, or become sterile altogether. This is plausible enough, and may be found convenient in the closet, but it will not do at the potting-bench.

That plants can be originated artificially which will be found capable of reproducing themselves from seeds, *ad infinitum*, with as little variation as is to be found in any natural species, is as obvious to gardeners as the sun at noon-day.

To distinguish such *home-made* species from mere varieties, we ought to have some peculiar term.

In conducting experiments in hybridising, it may be of im-

portance for some persons to know that *the Pollen of most* (perhaps all) *Plants is capable of maintaining its fertilising properties for an Indefinite Space of Time*; and, if well preserved, will be as fit for use when five years old, as when only five minutes old: the only conditions necessary for the preservation of it are, an absolute exemption from moisture, and to be kept in an atmosphere above the freezing point.

Mr. Johnson (V. 12.) is in error in supposing the petals to be essential in the delicate process of nourishing the embryo seeds. The service of the petals is entirely at an end the moment the stigma is ready for the pollen. — *D. Beaton. Haffield, near Ledbury, Herefordshire, October 6. 1835.*

[Mr. D. Don has described *Fúchsia* cónica, globòsa, and grá-cilis as varieties of *F. macrostèma*, in the *British Flower-Garden*, 2. s. t. 216. Dr. Lindley has spoken of globòsa and cónica incidentally, in his account of *F. discolor*, as being, “to all appearance, distinct species.”]

FUCHSIA, some plants of, have been raised from seeds, among which there is prospect of some new varieties.

In Mr. Dennis's nursery, Grosvenor Row, Chelsea, is a number of plants of *Fúchsia*, which were raised, in September, 1834, from seeds that Mr. John Nairn, now with Mr. Dennis, had supplied. Mr. Nairn has informed me that he obtained the seeds from a plant of *F. globòsa*, to the flowers of which pollen from the flowers of several other kinds of *Fúchsia* had been applied. Among the plants produced from the seeds, there is enough of difference in the foliage, contour of growth, and flowers in some of those that have borne flowers (and most of them have), to mark some of them as likely to be distinct varieties. I saw one flowering on August 22., which was noticeable in the following points: — two stems which had their rise in about the centre of the pot, diverged oppositely, and were extended over and beyond the rim, and so much reclined as to be not much above the rim; from these two stems numerous twig-like branches had been produced, were pendulous, and were numerous enough to fringe the pot all round beyond the rim. These twigs had borne and were bearing numerous pretty flowers, and the variety was, hence, ornamental, as well as peculiar in contour. The flower has the cast of that of globòsa, but it is smaller, and not obviously globular, even in the bud. — *J. D.*

LXXIII. *Rosàceæ*, § *Amygdàleæ*.

1502. *CÉRASUS*.

12877 *japónica* *Loi.* Japan 2 or 3- mr.my Pa Bh China 1834? B 1 Bot. reg. 1801
Cérasus japónica *G. Don*, in his Gen. syst. of gard. and bot. Synonyme: *Prunus japónica* *Lindl.*,
 in Bot. reg. t. 1801.

Deemed the single state of “the double Chinese plum, or almond, as it is often incorrectly called,” and not comparable in showiness of flowers with that. It is a shrub of numerous slender twigs which bear in spring numerous flowers, whose

corollas are blush-coloured. "It appears to be a hardy shrub; our specimen, however, was taken, in January last, from a plant which had flowered in a green-house. . . . For its introduction, the public is indebted to John Reeves, Esq." (*Bot. Reg.*, Oct.)

LXXIV. *Pomàceæ*.

1505. *ME'SPILUS*.
 12894 lobàta *Poir.* lobed-leaved $\frac{1}{2}$ or 15 my.jn W ... 1800 G co Bot. mag. 3412
 Synonymes: lobàta *Poir.*, *Encyc. bot. suppl.*, iv. 71.; *Smithii* Dec., *Prod.*, ii. 633.; *grandiflora*
Smith, *Exot. bot.* i. p. 33. t. 18.

The causes of this species having three specific epithets are these: — De Candolle has, in his *Prod.*, superseded the name *grandiflora Smith* by that of *Smithii* Dec., where he has remarked, as if for a reason, that its flowers are smaller by almost half than those of *germànica*, the common medlar. Dr. Hooker has now communicated that De Candolle applied his name *Smithii* " . . . without being aware that it was the lobàta of Poirèt, who described it from plants growing in the French nurseries." (*Bot. Mag.*, Oct.)

Lobàta is a small tree of much interest in the shrubbery or the pleasure-ground. It is very hardy, grows readily, flowers pretty abundantly, and is ornamental in its flowers and in its copious vesture of darkish-green foliage. The leaves are much narrower than those of *germànica*, and show some tendency to lobedness.

CRATÆGUS.

mexicàna *M. & S.*, information on, additional to that given in p. 473, 474., chiefly on the points of the introduction of, and the degree of its hardness, in Britain.

I see by your Magazine that there are some doubts thrown out respecting the introduction of the *Cratægus mexicàna*, which, in a few words, I can easily clear up. The fruits of it were brought to this country by the late Lord Napier, on his return from Mexico, and he gave them to me. I planted the seeds immediately, and they very soon came up; and I have no doubt that these were the first seeds which came to this country. He also brought home several other valuable seeds of species of plants new to Britain: among them was a very fine new species of *Arbutus*, resembling very much the *A. Andrachne*, which has not yet flowered. I believe there is only one more plant in the country besides the one I possess. I first of all tried the plants of the *Cratægus* as standards; but they were so much injured by the frost, that I put two of them against the garden wall, where they are not the least injured by the frost; and last year they produced fruit for the first time. The fruit remains on the trees until the middle of December, or perhaps longer. This year it has also flowered and fruited finer than last; and I can supply you with specimens of each if you wish it. [We should be happy to receive them.] From the appearance of its growth, it must be a much larger tree than any of its genus. I have just now come into flower and fruit that magnificent, new,

and very scarce *Musa* from Dacca. — *A. Bourke Lambert*. *Boynton House*, Sept. 4. 1835.

The *Crataegus mexicana* has ripened its fruit regularly for the last five or six years here. — *William Chalmers*, *Gardener*, *Terenure*, near *Dublin*. Sept. 18. 1835.

[A specimen of the fruit and a spine were sent with this information; the spine to exhibit that *C. mexicana* bears spines. The spine sent us is about $1\frac{3}{4}$ in. long. The fruit consists of a corymb of five pomes, not ripe; the two largest are not twice the size of the larger of the pomes of the hawthorn of British hedges, green, and villous. Six leaves are about the corymb.]

LXXVII. *Leguminosæ*.

1235. EDWARDSIA.
140399a chilensis Miers Chilian ♀ □ or ... ap. my Y Chile 1822 L 1 Bot. reg. 1798
Synonyme: *Sophora macrocarpa* Sm., Bot. cab. 1125.; Loudon's Hort. brit. No: 29258.

Perhaps this is more eligible for cultivation for ornament than either the *grandiflora* or the *microphylla*, although both these are so beautiful. A plant seen in flower, in Messrs. Loddiges's nursery, on April 28. 1835, trained to the face of a wall, was beautiful in its flowers, and seemed preferable to *microphylla* in showing a more free habit of growth and flowering, and having its flowers in groups of racemes: the groups of racemes gave a greater showiness and fulness of floral ornament than the more separated golden tubular bells, pendulous from the branchlets of the *microphylla*, give to that. The corollas of *E. chilensis* are more yellow than golden; the leaves and leaflets largish, greyer, and perhaps more villous, than in either *grandiflora* or *microphylla*. The plant in Messrs. Loddiges's nursery might be 5 ft. high or more, of many shoots proceeding, apparently, from a stump of a stem about level with the ground, and these trained to a space of wall of, it might be, 5 ft. wide. — *J. D.*

Dr. Lindley has communicated that *E. chilensis* is "a fine tree, native of Chile, where the inhabitants call it Mayu;" and has stated that he believes that at present it only exists, in Britain, in the collection of Messrs. Loddiges. (*Bot. Reg.*, Oct.)

1262. PULTENEA.
cordata Graham. sharp-heart-leaved ♂ □ or 2? ap O Van Diemen's Land 1832 C s.p.1 [Bot. mag. 3443]

Shrub erect. Branches red; when very young, green. Leaves crowded, petiolate, spreading, cordate-ovate, acute, terminated by a pungent bristle. Petioles red. Calyx red. Flowers in heads, two to five in a head; the heads at the tips of branches, and, by the figure, solitary there. Flowers perfumed, but not pleasantly. Corolla orange-coloured, its keel red-orange-coloured at the tip. *Cordata* "was raised at the Botanic Garden, Edinburgh, in 1832, from seeds sent from Van Diemen's Land, the year before, by Campbell Riddell, Esq. It flowered very freely in the green-house in April, 1835, and is highly ornamental, notwithstanding the lurid colour of its foliage and branches." (*Dr. Graham*, in *Bot. Mag.*, Oct.)

EMBRYO DICOTYLEDONOUS: COROLLA MONOPETALOUS.

CLXX. *Ericàcææ*.

1339. RHODODENDRON 4344 calendulaceum [O-R ?hybrid ... L p.l Bot. mag. 3439
var. fulgidum Hook shining in the showiness of its corollas of an orange-red colour $\frac{1}{2}$ or 4 sp
It had been received at "the Glasgow Botanic Garden, from Mr. Malcolm, as the var. fulgida
of *Azalea calendulacea*. It is, we [Dr. Hooker] believe, a hybrid variety, and, if we may judge
from the appearance, between *R. ponticum* [It is not to be doubted that Dr. Hooker has here
meant the *R. flavum* D. Don, the *Azalea pontica* L.] and *R. nudiflorum* var. *coccineum*; but of
the parentage we will not undertake to speak." — Dr. Hooker.

"Very beautiful. Cultivated in pots forced in the conservatory in the spring months, there are few plants better calculated to enliven a collection than the present. It comes near the 'copper-coloured Highclere Azalea' of *Bot. Reg.* t. 1366, but is infinitely superior in point of richness of colour. It recommends itself no less by the fine colour of its inflorescence, than by the bright green of its leaves, which, spreading out beneath the corymbs of flowers, form a rich background to them." (*Bot. Mag.*, Oct.)

1339. RHODODENDRON 4343 flavum D. Don (*Azalea pontica* L.) [Sw. fl. gar. 2. s. 306
var. ardens D. Don fiery-coloured-corollae $\frac{1}{2}$ spl. 4 my Bt O-R ?Holland hybrid L p.l
"Is doubtless a hybrid production between *R. flavum* and one of the varieties of *nudiflorum*."
— D. Don.

"This truly splendid variety was introduced from Holland." The drawing of the figure published "was obtained from Mr. Knight's collection in May, 1835. The plant had 8 or 10 large, compact, rounded heads of flowers, which, for brilliance, could not be surpassed. . . . Corolla of a bright orange red." (*British Flower-Garden*, Oct.)

Of azaleas, which are now to be called, it seems, rhododendrons, Mr. Waterer, Knap Hill, has raised 79 varieties, estimable for the beauty of their flowers, and some of them highly so. Mr. Cree and Mr. Waterer have selected this number out of hundreds of seedling plants, and have named them. — G.

1345. A'RBTUS. In the notice on *Cratægeus mexicana* M. & S., in p. 583., is information on a species of *A'rbutus* deemed new to British collections.

CLXXV. *Lobeliàcææ*.

- 609a. TÛPA G. Don (The name *Tupa* is applied by the Indians of Chile to a species of this genus.
— D. Don.) 5. 1. D. Don. ? 16. 2. J. D. Sp. 10.
[? Affinity.] blanda D. Don charming $\frac{1}{2}$ Δ or 3 ... Pk Chile ... D lt.1 Sw. fl. gar. 2. s. 308


Mr. D. Don has constituted the genus *Tûpa* of certain species of *Lobelia* as they had been deemed. The characteristics of the genus *Tûpa* that he had given in the *British Flower-Garden* are to the following amount. Calyx top-shaped, 5-toothed. Corolla's tube slit lengthwise on the upper side, the limb directed to one side, 5-parted. Stamens monadelphous. Anthers coherent, the front two with a tuft of hairs at the tip. Stigma bearded beneath, of two lobes. Capsule half superior, two-celled, many-seeded, opening at the tip. Seeds elliptic, concave, smooth.

T. blanda D. Don is herbaceous, perennial; its stems upright, leafy, 3 ft. high, terminated by upright racemes, one upon a stem, of many flowers. Leaves lanceolate, 6 in. or 8 in. long, 2 in. or 3 in. broad. Corolla pink, 1 in. long. "A flowering

plant of this very handsome species was sent us from Sundridge Park, Kent, the seat of Sir Samuel Scott, Bart., by our friend Mr Malleson, by whom it had been raised from Chilian seeds. It appears to be quite as hardy as the *Tupa Feuillei*, and not inferior to it in beauty." (*British Flower-Garden*, Oct.) *T. Feuillæi* G. Don is the *Lobelia Tupa* L., Bot. mag. 2550., Sw. fl. gar. 284.

CXCVII. *Gentiàneæ*.


465. *CHIRONIA*.

peduncularis Lindl. long-peduncled  or $3\frac{1}{2}$ j.l.o P ... 1830? C p. Bot. reg. 1803
Synonyme: *trinervis* Hort., not of Linnaeus. — *Lindley*.

It is unlike in its features, except its flowers, any of the other kinds of *Chironia* usual in collections. All its green parts are coloured of a pleasing glaucous colour. Its leaves are broad at the base, acuminate, and traversed lengthwise with from 3 to 5 veins. Its flowers are upon long peduncles, and are positioned clear of the foliage; they are produced in succession from "July to October." It is a hardy green-house species, ready of growth, and easy of propagation. "The bitterness of the species is remarkable even among its bitter neighbours." (*Bot. Reg.*, Oct.) It is not rare in the nurseries of the London neighbourhood.

CC. *Polemoniaceæ*.

472. *PHLOX*.

Drummondii Hook. Drummond's  or 1 or more [Texas 1835 S ?p.l Bot. mag. 3441
su and aut, it is probable Ro-P C

In duration "decidedly annual." Short spreading hairs invest most of its surface. Stem 1 ft. or more high, simple or branched. Leaves, below opposite and oblong spatulate; above alternate and oblong, acute and aristate, somewhat cordate at the base, sometimes even auriculated and semi-amplexicaul; of a pale green colour. Flowers very showy in their corollas, produced in profusion, and disposed in terminal corymbs; several flowers in a corymb. Corolla with its tube about thrice as long as the tube of the calyx, the limb of five spreading, obovate, approaching to rhomboidal, lobes pale purple without; within, or on the upper side, of a brilliant rose-red or purple; varying exceedingly on different individuals, in intensity, and in their more or less red or purple tinge: the eye generally of an exceedingly deep crimson. The diameter of the limb is, in some of the pictures of corollas, greater than that of a small halfpenny piece. Dr. Hooker has stated of this species that it is very handsome, and that it bids fair to be a great ornament to the gardens of our country.

Plants have been raised in the Glasgow Botanic Garden, from seeds sent by the discoverer of the species, Mr. Drummond, since dead. Dr. Hooker has named the species *Drummondii*, in commemoration of him. See in p. 608. of this present Number. (*Bot. Mag.*, Oct.)

499. *GI'LIA* tricolor

2 flóribus albicántibus D. Don whitish-corollaed  or $\frac{1}{2}$ j.l.s Wsh California 1833 S co

[Sw. fl. gar. 2. s. 264]

CXCIX. *Convolvulaceæ*.

491. IPOMÆA.
Aiton's Lindl. Aiton's $\frac{3}{4}$ \square or ... ap to o Pa P ... SC r.m Bot. reg. 1794
Synonyme, Aiton's Hort.

Pretty. Not uncommon in collections. Stem very villous. Leaf heart-shaped at base, three-lobed in the frontward part. Flowers produced aggregately about the tips of common peduncles that are longer than the foot-stalks or the leaves; they open in the morning: corolla of, by the picture, a pale purple or full lilac colour, the mouth of the tube of a dark, perhaps crimson, colour; the breadth of the limb greater than that of a half-penny piece. Seeds "are produced in some abundance."
(*Bot. Reg.*, Oct.)

CCXI. *Scrophulariææ*.

65. CALCEOLARIA, shrubby varieties of, have been raised from seeds, by Mr. Joseph Plant, florist, Cheadle, Staffordshire.

In Harrison's *Floricultural Cabinet*, the number for October, 1835, are pictures of 15 flowers, the pictures coloured, of 15 varieties of *Calceolària*; and a statement, by Mr. Harrison, that these are of the varieties which he considered the most handsome, in "a considerable number of flowering specimens of seedling shrubby calceolarias," that he had received in the summer of this year from Mr. Joseph Plant, florist, Cheadle, Staffordshire. The pictures show corollas varied in their size, shape, and especially in their colour; some of them are very large, as compared with the corollas of those shrubby kinds, deemed species, that are usually cultivated.

CCXIII. *Solaneæ*.

448. NOLANA.
atrilicifolia D. Don Atriplex-leaved \bigcirc \star or ? $\frac{1}{2}$... B.W.Y Peru 1834 S r.l Sw. fl. [gar. 2. s. 305
Synonyme, atrilicifolia Hort. It comes near to spatulata and coronata. — D. Don.

Annual, hardy. "The flowers are large and extremely showy, being not unlike, in form, size, and colour, those of *Convolvulus tricolor* [known by some by the name of "the convolvulus minor"]. The radical leaves are large, and greatly resemble those of the garden spinach." *Atriplicifolia* "loves a rich loamy soil, and is increased by seeds, which it affords in abundance." The figure had been drawn at the nursery of Messrs. Allen and Rogers, at Battersea. (*British Flower-Garden*, Oct.)

CCXXI. *Labiataæ*.

1649. WESTRINGIA.
4746a eremicola Cunn. desert-inhabiting \blacksquare \square or 38 [interior of, 1823? C p.l Bot. mag. 2438
Synonyme, longifolia Lindl., in Bot. reg. t. 1481., not of Brown. pr $\frac{2}{3}$ sp.o Pa. B New South Wales, the

Mr. Allan Cunningham knows only of this species that is indigenous to the interior of New South Wales, so far as he has extended his researches in that vast country; "its several congeners being confined to the coast-line, or its vicinity, where they either occupy exposed spots on the boundary sand-hills of

a weather-beaten shore, or stations in the stony back grounds equally within the influence of the sea air." *Eremicola* has been raised in the Kew collection, from seeds gathered, in 1822, in the neighbourhood of Bathurst. It has been distributed from the Kew collection into other collections. From Kew, "by the liberality of Mr. Aiton, specimens in flower were sent" to Dr. Hooker, "in October," 1834. *Eremicola*, "during the winter season, requires but the protection of a frame or pit; at other periods of the year it thrives well in the open air, and produces a succession of flowers between the months of spring and autumn." (*Bot. Mag.*, Oct.)

EMBRYO MONOCOTYLEDONOUS.

CCXL. *Orchideæ*.

2537. MAXILLARIA.

§ Flowers each upon a radical peduncle; labellum anterior. [p.r.w Bot. reg. 1082]
picta Hook. *speckled-flowered* £ ☒ or $\frac{1}{2}$ n.d O.R.Br Organ Mountains of Brazil 1830? O
 [reg. t. 1802., in the text]
rufescens Lindl. *rufescent-sepaled* £ ☒ cu ... d P.G.R Trinidad 1834? O p.r.w Bot.
 It "stands next *M. picta*."—Lindley. [of, O p.r.w Bot. reg. 1799]
cròcea Lindl. *saffron-coloured-perianthed* ¥ ☒ cu $\frac{1}{2}$ au Saf Rio Janeiro 1833, the spring
 "It is obviously allied to *M. picta* and *punctata*."—W. B. Booth, who has drawn and described
 the species in the Bot. reg., except naming and diagnosing it.
gramínea Lindl. *grassy-leaved* £ ☒ cu ... ja Pa.Y and P Demerara 1834? O p.r.w
 "Not very nearly related to any known species."—Lindley. [Bot. reg. t. 1802., in the text]
 § Flowers upon axillary peduncles. [The flowers in the following one species are in a ra-
 ceme; are they so in other species of this section?]
dénsa Lindl. *dense-racemed* £ ☒ or ... ja W Pk Mexico 1834? O p.r.w Bot. reg. 1804

Picta. Truly beautiful. "When well managed, it throws up a profusion of its grey speckled flowers, which remain perfect for some time." (*Bot. Reg.*, Oct.)

Rufescens. "It is a species of no beauty. The sepals are a dull greenish purple, the petals and lip yellow, the latter speckled with dull purplish red. . . . Our description is taken from a drawing and flower transmitted from Chatsworth in December, 1834. . . . Possibly the specimen was bleached, and the colours would become brighter if the plant had flowered in brighter weather. . . . Imported by Mr. Low of Clapton." (*Bot. Reg.*, Oct.)

Cròcea. Not showy. Terrestrial. Pseudo-bulbs small, oblong, compressed. Leaves 4 in. to more than 6 in. long, 1 in. wide; thick, rigid. Peduncles 4 in. high. "Flowers, before expansion, having some resemblance to the beak of a bird." Perianth, when expanded, orange-coloured; the segments of it narrow and pointed. Column and labellum, except at its margin, of a brownish-red colour. The figure is from the species alive in Sir C. Lemon's collection. Captain Sutton, who had imported it, had presented it to Sir C. Lemon. (*Bot. Reg.*, Oct.)

Gramínea. "A small and inconspicuous species. The blossoms are pale yellow, with the segments a little banded with purple near the base. . . . Imported by Mr. Low. Flowered in Messrs. Loddiges's collection, January, 1835." (*Bot. Reg.*, Oct.)

Dénsa. "The stems rise some height above the ground, and are closely invested with brown withered scales, from the axils of which spring the pseudo-bulbs and flowers." Each pseudo-bulb bears an oblong-lanceolate, obtuse, emarginate leaf. The flowers are small: they are represented numerous in one of the two racemes portrayed; the colour is for the greater part white, the rest pink. (*Bot. Reg.*, Oct.)

2539. PLEUROTHALLIS. Thirty-four species have been described. See below. [reg. 1797
Gröbyi Lindl. Lord Grey of Groby's £ \square cu $\frac{1}{2}$ ap Y R Demerara 1834 D p.r.w Bot.
Pleurothallis Gröbyi Bateman, in a letter. It is nearly related to picta, from the same country.

A species of tiny proportions. Leaves on short secondary stems, and grouped into a tuft. Racemes of from 6 to 9 flowers. Sepals, petals, and labellum, yellow and red. "It is readily cultivated in the orchideous house; but, where the atmosphere is not very damp, will require to be kept under a bell-glass." The figure represents living specimens in flower, as extant in the collection of Messrs. Loddiges in April, 1835.

Dr. Lindley has added to his account of the species cited above, a description of the characteristics of 16 species of Pleurothallis not previously advertised to the public; and an arrangement of these species, and of 18 that had been previously described, thus, 34 in all, into three sections, and two divisions of one of the sections. (*Bot. Reg.*, Oct.)

Dr. Lindley has appended to his account of the pleurothallises some of the characteristics of, and some particulars on, two genera, named Physosiphon and Specklinia, both of them additional to those in Loudon's *Hortus Britannicus*. These are noted in the next page.

3412. STANHOPEA. [reg. 1800
28731 oculata Lindl. £ \square el 2 jnjl Pa.Y. spotted with P Mexico, Brazil? 1829 O p.r.w Bot.
Ceratohilus oculatus Lodd., Bot. cab. 1764; Loudon's Hort. brit. No. 28731. Four species of
Stanhopea are tabulated in Gard. mag. viii. 726.

"It is the most interesting of this splendid genus, on account of the extremely delicate waxy appearance of its surface, the softness of its ground colour [which seems by the picture to be a very pale yellow], and the richness of the deep purple spots, which, lying upon a bright yellow field [at the base of the lip and petals], so very conspicuously ornament the base of the lip and the petals. Our drawing was taken from a most noble specimen produced in July, 1834, in the stove of Mr. Bateman. The leaves including the petioles were more than 2 ft. long, and, being of the darkest green, had the most imposing appearance. Mr. Bateman informs us that he finds it requires eight such leaves to form a flowering plant; and that those who wish to succeed in blossoming it must suffer it to remain a long time undisturbed, since a good many pseudo-bulbs are required to furnish one really fine specimen." (*Bot. Reg.*, Oct.)

2577. FERNANDEZIA.
acuta Lindl. acute-leaved £ \square cu $\frac{1}{2}$? jn Y R Trinidad 1834? D p.r.w Bot. reg. 1806

"In habit is very like *F. elegans*, from which it is principally distinguished by the tapering form of its leaves and the shape of its lip. Mr. Knight has imported a plant or plants of *F. acuta*, in whose collection it flowered in June last. (*Bot. Reg.*, Oct.)

2572a. *PHYSOSIPHON* Lindl.

(*Physa*, an inflated containing object, *siphōn*, a tube; the calyx tubular, inflated at the base.) 20. 1. Sp. 3.

The species have the habit of species of *Pleurothallis*.

†29270 *Loddigesii* Lindl. Loddiges's $\text{£} \square \text{cu} \frac{1}{2}$ mr.my O New Spain 1828 D p.r.w Bot. [cab. 1601

Synonyme, *Stelis tubata* Lodd. Bot. cab. 1601., and Loudon's Hort. brit. No. 29270. Sp. 2d, *emarginata* Lindl.; synonyme, *Pleurothallis emarginata* Lindl. Gen. et sp. orch. pl. p. 6.

Sp. 3d, *spiralis* Lindl. spiral-spiked from Port St. Catharine in Brazil.

2547a. *SPECKLINIA*.

atropurpurea Lindl. dark-purple-flowered $\text{£} \square \dots \frac{1}{2}$ or $\frac{1}{2}$ D. P. Jamaica 1834?

This species is to be added to those that had been described, I believe in Lindl. Gen. et sp. orch. pl. Dr. Lindley has examined a dried specimen in Dr. Hooker's herbarium: it had been cultivated in the Liverpool Botanic Garden. Dr. Lindley has deemed it probable that "several

spurious *Dendrobia* of authors" are species of *Specklinia*, "especially" *Dendrobium retusum* *La Llave*, *Specklinia retusa* Lindl.; *D. scariosum* *La Llave*, *S. scariosa* Lindl.; *D. pusillum* *Hum. & Kth.*, *S. pusilla* Lindl.; *D. acuminatum* *Hum. & Kth.*, *S. acuminata* Lindl.; *D. elegans* *Hum. & Kth.*, *S. elegans* Lindl.

†4455. *GOVENIA* Lindl.

(So named in compliment to James Robert Gowen, Esq., under whose care were conducted many of the curious experiments upon cross fertilisation at Highclere, the seat of the Earl of Caernarvon."—*Lindley*.) 21. 1. Sp. 2. or 3

†28896 *superba* Lindl. superb-aspected $\text{£} \square \text{spl} 5$ f.mr O Mexico 1828 D s.lt Bot. reg. 1795
"Govenia superba Lindl., in Lodd. Bot. cab. t. 1709." Synonyme, *Maxillaria superba* *Lexarsa & La Llave*.

Stem with the leaves 5 ft. high, leaves 3 ft. and more. Raceme of flowers 1 ft. to 1½ ft. long, of numerous flowers. "It is one of the handsomest plants of the whole order of Orchideæ, and is especially remarkable for its stately appearance, the rich orange of its flowers, and the long time they continue open. . . . It is found to bear the hottest and dampest stove, but, like all the terrestrial species, requires a season of repose." This species has flowered in Britain, in the collection of Messrs. Loddiges and in that of Mr. Bateman. Dr. Lindley has given some account and a diagnostic of another species, which he has distinguished from specimens collected in Mexico by Count Karwinski, and belonging to the royal herbarium of Munich. Dr. Lindley has notified, besides, that *Maxillaria liliacea* of some author or authors (he has not stated which) "is also, in all probability, a *Govenia*, and" that it "may be named *Govenia liliacea*." (*Bot. Reg.*, Oct.)

CCXLII. *Marantaceæ*.

1. *CA'NNA* 33 glauca

3 rubro-lutea Hook. yellow-and-red-corollaed $\text{£} \square$ or 4½ au Y.R. Jamaica 1834? D r.m [Bot. mag. 3437

"It may be reckoned among the handsomest of the genus, especially if the foliage be considered as well as the flower, the leaves being remarkably elongated, and of a delicate glaucous hue, while the large blossoms are varied with red or yellow." Dr. Hooker did not dare to venture to consider it other than a variety of glauca. The kind is living in the Glasgow Botanic Garden: Mr. M'Fayden had sent it there from Jamaica. (*Bot. Mag.*, Oct.)

CCXLIII. *Musaceæ*.

746. *MU'SA*. In the notice on *Cratægus mexicana* *M. & S.*, in p. 583., is information on a species of *Musa*.

REVIEWS.

ART. I. *Outlines of Botany, including a General History of the Vegetable Kingdom, in which Plants are arranged according to the System of Natural Affinities.* By Gilbert T. Burnet, F.L.S., Professor of Botany in King's College, London, and Senior President of the Westminster Medical Society. Two volumes 8vo, 1190 pages. London, 1835. 1l. 14s.

THESE outlines, the author informs us in an advertisement, "contain the heads of the Subjective Course of Lectures annually delivered by the Author in King's College, London." By Subjective Botany, the young gardener may be informed, is meant the mode of teaching the science, in contradistinction to the things to be taught; the discussion of the tools of an art, in contradistinction to the discussion of its operation; the mode of putting a book together, of arranging and writing it, rather than the subject to be treated of in that book.

"The distinction between a science, and the things it treats of, though of primary importance, is too often overlooked; and the means mistaken for the end to be attained; a fatal error, and one that leads to many misconceptions. For the latter are immutable, the former always changing: that is but the instrument of knowledge, these the matters to be known.

"Physical truths are as much truths, though known for the first time, by man, to-day, as those which have been discovered a thousand years. Their antiquity is equal, though known but now; nor would it have been less, had they by man been never learned. They were from the first discoverable, though not previously discovered; and, if again forgotten, they would not cease to be.

"If physical truths were only known in fragments, however great their accumulation, science could scarcely be said to exist; it is not until reduced by system, that their indefinite acquirement can be profitably sought; for what addition to an unordered host of facts can be esteemed an advantageous increase? Still it is evident that system does not change the import of the truths that it collects, nor vary the nature of the facts that it arranges. System is but the disciple of science; as system, it adds nothing to, neither does it diminish aught, the store of facts it comprehends: how much soever systems vary, facts change not; these remain unaltered, however vaguely ordered, however effectively disposed. Bad systems may impede, and good ones may assist, the progress of discovery, as they more or less commodiously distribute truths already known; still even the best are but the vehicles of learning, and not the knowledge they are destined to convey. Hence it is matter, not method, that deserves our chief consideration; for, as the subjects known increase, and the objects to be obtained are varied, so systems must conform to the principles of the one, and be modified to suit the purposes of the other.

"The revolutions of methods which mark epochs in philosophy should therefore merely be regarded as stages of maturation; and it should be remembered, that such plans as may have been well fitted for a former state or condition of knowledge, may be utterly unsuited to the present; and again, that such as may be effective aids, for a certain purpose, may be wholly inefficient for another: truth is the subject, its discovery the object, of philosophy; and truth is eternal. Hence the things to be known are always the same, how much soever the successive discoveries of its several parts may modify

man's still partial views of nature, and change the aspects of human knowledge." (Preface, p. 11.)

Subjective Botany is indicated in outline in a general introduction. Botany is the ancient herbcraft. The question of "what is a plant" is next agitated.

"Plants are the subjects of botany; their attributes the objects of the science: hence, two schemes of study, the subjective and the objective, lie before us; each of which may be pursued in opposite courses, i. e. either by analysis or synthesis, whence the anterior and posterior arguments result; between these the selection must be made. The former descends from generals to particulars, the latter ascends from effects to causes; that being essentially more abstract, this more practical in its course. Each has advantages peculiarly its own; hence, both should in turn be studied, and neither exclusively neglected or pursued. But, as anterior argument requires much antecedent knowledge, while the posterior can trace back from none; that being the fruits of learning, while this is the means to learn: although the first is the most comprehensive, the last is the most familiar; and hence it is that with which we shall commence our labours." (Introduction, p. 21.).

We have made these quotations to show the profound and logical manner in which the author proceeds. The work, indeed, may be characterised as an extraordinary mental exercise on the subject of which it treats. The author seems to have made his own every thing which has previously been written on the subject, and has brought together in a condensed form, and arranged in a manner peculiar to himself, all that is at present known of botanical history, or, in other words, of the mode of teaching botany. Of the merits of the author's arrangement we do not pretend to judge, farther than to say that its consideration cannot prove otherwise than an excellent exercise for the young mind. The author may be recognised in these pages as a man of profound and general views; acute, philosophical, without partiality or prejudice; perfectly independent, and a friend of human nature. Such are our impressions from having perused the preface, the introduction, and a few passages at random here and there throughout the work: but we intend to read it through regularly, and to recur to it in this Magazine from time to time. Though we do not think the author's arrangement likely to be adopted in practice, because for that purpose it differs too much from every other; yet the work, which is printed in a type almost as small as that of our *Encyclopædia of Gardening*, contains such a mass of matter, tending not only to cultivate the intellect, but to be of practical use to the botanist, the gardener, the medical man, and the naturalist generally, that we cannot but strongly recommend it.

This was written in June, when the book was first sent to us; and we regret to state that the amiable author is since dead. This work will honourably perpetuate his name.

ART. II. *Catalogue of Works on Gardening, Agriculture, Botany, Rural Architecture, &c., lately published, with some Account of those considered the more interesting.*

BRITAIN.

MAIN, James, A.L.S., Author of "Illustrations of Vegetable Physiology," &c.: *Popular Botany*. 12mo, 227 pages, and numerous woodcuts. London, 1835.

This little work is very neatly executed, and fully answers its title of "popular:" it is also, at the same time, scientific and practical; for we do not know any individual who to so much science joins more varied and extensive experience than Mr. Main. *Popular Botany* was originally written for the *British Cyclopædia of Natural History*; and we believe it is generally allowed to be one of the most valuable articles that has appeared in that work. We need scarcely add that this book is one which we can cordially recommend.

Bohler, J.: *Lichenes Britannici*; or Specimens of the Lichens of Britain. In Monthly Fasciculi, with Descriptions and occasional Remarks. Sheffield, 1835.

It is most difficult, we cannot doubt, to describe the characteristics of the species of plants of this kind, so as to enable students to identify the species by the descriptions alone. The present work must supply an efficient help to the attainment of this object.

The third fasciculus, published in August, is the only one which has been sent to us; and the species exemplified in it are, *Lecidea geographica*, *Parmelia omphalodes*, *Gyróphora eròsa*, *Bórrera tenella*, *Ramalina fraxínea* and *fastigiata*, *Cladonia furcata*, and *Scyphóphorus fimbriatus*; and each by a specimen, except the first, which is exemplified by a coloured figure. The specimens are well secured from injury by being stuck to the face of stiff portions of paper nearly twice the size of the book; and the portion that is extra to the size of the book is folded over the specimen. Brief descriptions, almost exclusively of the technically botanical kind, of each species, are placed opposite to the specimen or figure of that species. The author is not, in the copy sent us, remarkably liberal in the fineness of the specimen of two species of which specimens are not rare, the *Ramalina fraxínea* and *Scyphóphorus fimbriatus*; although true it is, that, to the end of enabling one to become acquainted with any species, a characteristic specimen of it is the thing wanted, without regard to its size. — J. D.

Sowerby's small Edition of English Botany has reached No. 88. The plates, as usual, are most admirably done. The partially

coloured copies are, for all useful purposes, quite as good as if they had been wholly coloured; and, considering that they are only 1s. a number, we strongly recommend the work to all who are desirous of having a thorough knowledge of the species of British plants.

Baxter's British Flowering Plants has reached No. 37.; and this work, also, is a model of its kind. To those who cannot afford to purchase Sowerby's *English Species*, we confidently recommend *Baxter's British Genera*. The plates are equal in excellence to any that have been published; and the letterpress is, to our taste, far superior to that of most British floras. The price is only 6d. a number for the plain copies, or 1s. for the coloured ones; and the work will be completed in two volumes.

We consider it a duty to recommend these two works strongly to public notice, as being of first-rate excellence, and as cheap as they possibly can be afforded to be done well. We should be sorry to see them injured in sale by publications which have really no other merit than their cheapness; but such is the charm of that quality in the present day, that for a while it will sell anything. Only real excellence, however, will stand the test of time, and in this respect Sowerby and Baxter have nothing to fear.

A Catalogue of British Flowering Plants and Ferns, included in Dr. Hooker's *British Flora*, third edition, 1835, has been printed and published by G. Francis, 35. Great Prescott Street, and is sold at a very moderate price, in order to facilitate botanical correspondence; as an index to herbariums, &c.

Sinclair, James: A History and Description of the different Varieties of the Georgina, or Dahlia, now in cultivation in the British Gardens; illustrated with coloured Figures of all the choicest Sorts. No. I., for September. 4to. 3s. 6d. London, 1835.

We shall let the author speak for himself, and only observe, respecting his work, that the four drawings by which it is illustrated appear very well drawn from nature by Alfred Chandler, and transferred to stone by Mr. Sinclair. The colouring is also good, and we sincerely wish the work the success we think it so well deserves.

"The object of the following work is to bring into notice all the choice and leading varieties of the Georgina, or Dahlia, now in cultivation. Such has been the wonderful increase of this beautiful tribe of plants, that there are now among the London florists, nurserymen, and amateurs, upwards of six hundred distinct varieties of double dahlias, the colours of which are of the richest possible hue, and of an endless variety; yet there has never been any work wholly devoted to the Dahlia. We therefore undertake the following work from the consideration that a flower so extremely beautiful in itself, and

now become a general favourite, richly deserves a work wholly devoted to its history. Although there have been so many distinct varieties of the Dahlia raised of late years, the number of choice sorts fit to please the eye of the florist or amateur is yet but limited. The subjects chosen to illustrate this work are those only which are considered really good, and which form the first class of show flowers. The work is to be continued monthly; each number is to contain four varieties, faithfully drawn and coloured from nature, accompanied with such concise details and descriptions as will be calculated to promote the growth and culture of the Dahlia among all classes. It may be necessary to state, that no care nor attention will be wanting in selecting the choicest sorts for illustration, as we are well aware that some of the sorts which we now hold in great estimation will yet give place to others still more beautiful. The sorts intended to illustrate this work will be carefully selected from the richest collections in England, or perhaps in the whole world; viz. from the splendid collections annually exhibited by the Metropolitan Society of Florists and Amateurs, and the South London Horticultural Society. The rise and progress of such unrivalled exhibitions have, doubtless, been the cause of horticulture being carried to that point of perfection it has now attained. The drawings for this work have been taken from living specimens of the same approved sorts as have been shown at the above exhibitions." (Introduction.)

Smith, John, upwards of twenty years gardener to Dykes Alexander, Esq., of Ipswich: A Treatise on the Growth of Cucumbers and Melons, conjointly with that of Asparagus, Mushrooms, Rhubarb, &c.; comprehending Observations on the Methods now in use for the Growth of Cucumbers, with a full Explanation of an improved Mode of Culture, &c. 12mo, second edition. Ipswich.

We have already (IX. 692.) expressed our favourable opinion of this work, and are glad to find that the public have been so far agreed with us, as to call forth a second edition, which appears to contain some additions.

Nurserymen's Catalogues for 1835-6.

T. Rivers and Son have printed an enlarged edition of their excellent *Descriptive Catalogue of Roses*, which we have before warmly commended. Mr. Groom has published an 18mo *Catalogue of Flower-Roots and Plants*, former editions of which have been noticed with approbation. Mr. Charlwood has published a whole-sheet *Catalogue of Bulbs and Flower-Roots*, for sending by post; and the most elaborate *Catalogue of Flower-Seeds*, also in a single sheet, for sending by post, which we have ever seen. It contains the names of nearly 300 hardy annuals; 150 half-hardy annuals; 50 tender annuals; and between 600 and 700 herbaceous biennials and perennials. There are also the names of about 140 trees and shrubs, of which seeds may be procured.

Clark, William, Conductor of an Academy, Wisbeach: An English Grammar, systematically arranged in a Series of Easy

Lessons, appropriately designated, and characterised by many new and important features, &c. 18mo. Wisbeach, 1835.

A very useful little book, particularly well adapted for that very numerous class of persons, who have good ideas, and abundance of valuable knowledge, but who are unable to communicate what they know to the world, from the want of power to express themselves clearly. The rules for using *a* or *an* will be found very useful to many English gardeners; and those for placing the proper prepositions after each different verb, to many Scotch ones. The book is also short, portable, and, we have no doubt, cheap.

Smith, Thomas, author of "*Lessons on Arithmetic*," &c.: *Evolution*; or, the Power and Operation of Numbers in the Statement, the Calculation, the Distribution, and the Arrangement of Quantities, Linear, Superficial, and Solid. 8vo. London, 1835.

In our seventh Volume we strongly recommended the *Lessons on Arithmetic* of this author; and we may now, with equal safety, say that we consider the present a most agreeable philosophical treatise on a dry subject. The author's objects are, to strengthen and improve the mind, and to teach reasoning without the irksomeness of dry and repulsive rules. The book, he says, "will also prove to be a short and easy introduction to mensuration, surveying, and gauging."

Smith, Thomas, author of "*Evolution*," "*Lessons on Arithmetic*," &c.: *The Chairman and Speaker's Guide*; being an Essay towards a brief Digest of the Rules required for the orderly Conduct of a Debate. To which is prefixed an Essay on Public Meetings, Manner of Proceeding with Regard to them, &c. 18mo. London, 1835.

At first sight, this may seem a very unsuitable work to recommend to gardeners. We know, however, that some gardeners' societies about London, which have been founded by young men for the most laudable purposes, have failed entirely from the ignorance of their leaders as to the proper mode of conducting public business. In this point of view, therefore, the little work before us may be of use even to the young gardener, who forms one of a society for mutual instruction. To master gardeners, and to nurserymen, who officiate at public meetings of horticultural societies, it will be of still greater use; and it will also be of service politically. Every Briton ought to know how to conduct a public meeting; for to meet in public, so as to express his opinion openly, is one of his most glorious privileges, and one not possessed by any other nation in the world, except North America.

BELGIUM.

Salon d'Été. 53^{me} Exposition Publique de la Société Royale d'Agriculture et de Botanique à Gand. 8vo. Gand, 1835.

One of those catalogues, partly fictitious and partly real, which it amuses us to look over; partly to see what persons in this country the secretary of the society thinks it desirable to honour, by putting their names at the head of a list of plants supposed to be sent by them to the exhibition (though the party, perhaps, either never heard that such a society existed, or has no plants to send); and partly to see that horticulture is prospering in Belgium in its own manner. The total number of plants exhibited at this meeting at Ghent is said to be 2627; among which are 46 articles considered of the greatest rarity, sent by three Belgian nurserymen; viz. Van Geert, Verleeuwen, and Verschaffelt.

Prospectus de la Société Anonyme d'Horticulture et de Botanique de Gand. Folio. Ghent, 1834.

This is a scheme for establishing a new horticultural and botanical society at Ghent; but, as we have never heard anything more of it, we conclude the project has not been successful.

SWITZERLAND.

De Candolle, MM. Aug. Pyr. et Alph.: Sixième Notice sur les Plantes rares cultivées dans le Jardin de Genève.

The first plant mentioned is *Baumánia geminiflora*, sent to the Geneva garden by Messrs. Baumann of Bolwyller, under the name of *Bridèlia spinosa*: it belongs to the *Rubiaceæ*, and appears to be a stove shrub. *Solidàgo grácilis* is the next; then we have *Tanacètum globíferum*, formerly *Cótula aúrea*, supposed to be from the Cape of Good Hope, and a half-hardy perennial. There are also *Morìna longifòlia*, which promises to be a hardy shrub, as it has stood the winters of 1833 and 1834 at Geneva. *Amarýllis tuberòsa*, *A. psittacina Jónhsoni*, and *A. bahiénsis*. *Cérasus Mahàleb* var. *pubéscens*, apparently a very distinct variety of the perfumed cherry, is next mentioned; and we hope the plant will soon find its way into the British arboretums. *Bowièa africàna*, one of the new genera adopted by Haworth, and *Acàcia obscùra*, conclude the list.

MISCELLANEOUS INTELLIGENCE.

ART. I. *Retrospective Criticism.*

THE London Horticultural Society's Regulations, &c., for the Year 1836.—The arrangements promulgated by the Horticultural Society for their shows next year have just fallen into my hands; and, upon the whole, they will prove highly

satisfactory to those persons who usually take an interest in these proceedings. One suggestion, however, I would beg leave to offer, through the medium of your Magazine, for the consideration of the council. It is stated in the regulations that four persons are to be appointed as judges, and two hours are only to be allowed to these gentlemen for the purpose of deciding as to the merits of the numerous collections and specimens which are usually exhibited. It appears to me quite impossible that any four individuals, however experienced they may be in plants, can arrive at a proper and correct decision in so short a space of time; I would, therefore, recommend that six persons should be appointed as censors, three to judge the collections of orchideous, stove, and green-house plants; and three the single specimens, fruit, florist's flowers, and herbaceous plants. When either party has decided as to the respective merits of the plants, &c., they should be directed immediately to deliver to the secretary a written statement of their awards, when the council would then only have to declare who had obtained the large gold medal, value 25*l*. If some such plan as this were adopted, it would effectually prevent any mistrust, and place beyond suspicion the integrity and impartiality of the censors. — *An Amateur*. London, September 15. 1835.

The Review of Hayward on Horticulture. (Vol. X. p. 500.) — From your review of this work I was induced to read the book, and will now send you my opinion of its contents. In the first place, I was forcibly struck with what appears to be rather a common failing of those gentlemen authors, who condescend to teach what they term "blundering gardeners" the science of their profession, namely, repetition; a failing which, if the present volume had been swelled to a much larger size, would have led me to conclude that the author was influenced by a desire of book-making, as much as by a heartfelt anxiety for the advancement of horticulture. The work consists of 292 pages, of which 196 are devoted to the principles of the science, and the remainder to a system of practice founded upon those principles.

In the outset the author descants a little upon the ignorance, empiricism, and prejudice of gardeners and farmers; but, waving what I should willingly say upon that subject to some other opportunity, I shall proceed to take a rapid survey of the work.

In Chap. I. the elementary principles of air, earth, and water, and of animal and vegetable bodies, are concisely stated; and, among other things, the inference is deduced, that animals and vegetables are subservient to each other; death and decomposition only furnishing the means of their combining in new forms. In Chap. II., upon the composition of the earth, will be found a definition of the terms mould, loam, and soil, which are frequently used indiscriminately. Mould is a carbonaceous substance, the result of the decomposition of animal and vegetable matter; loam is the result of the pulverisation and mixing together of the elementary principles, silix, argile, lime, &c.; and soil is a combination of loam and mould, which is termed argillaceous, siliceous, &c., according to the name of its predominating substance. Water in a stagnant state being prejudicial to the generality of plants, the author, when treating upon the mechanical properties of soils, shows the advantages of an open divisible soil for the purpose of supplying water in a state of constant motion to the roots of plants, which is thus effected:—"When water is supplied upon the surface of the soil by rain, or otherwise, it is, by the operation of gravitation, made to sink and percolate through the earth; and when by the operation of the sun the water on and near the surface is evaporated, fresh water, by means of capillary attraction, is brought from below to supply the place of that carried off. As in both of these operations the water passes by, and is brought in contact with, the roots of plants, these absorb what is required by the plant." (p. 39.) In connexion with this we will give the author's ideas upon watering, which we consider of much importance, as, generally speaking, few operations are more carelessly performed:—"As much water must be given as will saturate the vegetative soil to its proper depth; and the applica-

tion must be repeated when the soil is dry an inch or two deep. When a less quantity of water is supplied, it often does more injury than good to plants; for when in want of water the roots penetrate deep, and, under such circumstances, a small quantity of water on the surface checks the capillary attraction: thus the roots that are grown deep, which are those on which the plant is made to depend in seasons of great droughts, are deprived of their supply of water, and the plant exerts itself to throw out horizontal fibres: by the time these are formed, and the young shoots extended, the supply of water on the surface again fails, and they are again checked, and perhaps destroyed: thus the efforts of the plant being uselessly directed between the extremes of a supply and a deficiency of water, it naturally declines in its growth; and hence the general opinion, that watering in dry weather injures more than it benefits plants." (p. 52, 53.)

In the part which treats upon the food of plants, among other things of importance, we find the fact stated, that carbonaceous matter cannot be made available for the nourishment of plants, unless it has previously been combined with animals or vegetables in a living state. Much importance is, with apparent propriety, attached to the different results which are the effect of carbonaceous matter in union with hydrogen, and when in combination with oxygen. When the carbonaceous matter lies deep, or in stagnant water, carburetted hydrogen or hydrocarbonate is formed, which, if they do not produce disease, are sure to encourage the developement of luxuriant branches and leaves, but, at the same time, to retard the processes of fructification, which the application of oxycarbonate advances. Hence, with much propriety, the author advocates shallow planting for fruit trees; having grown the best peaches upon 6 in. depth of soil resting upon a stone pavement. Hence, also, not merely in the case of fruit, but in that of vegetables and crops of any description, where good flavour and wholesome nutritious matter are more desirable than bulk or magnitude, the author not only is adverse to the burying of dung or vegetables in a rank state, but advocates the general use of surface manuring, contending that, although the manure be reduced in its weight by the evaporation of its water, "the nutritive principle will be rather increased by the attraction and combination with oxygen; as thus the carbonaceous matter will be rendered soluble, and the separation and combination of nitrogen effected; and what is carried off will only be carburetted hydrogen gas, which would have been more injurious than beneficial if retained." (p. 103.) Having given us the signs and consequences of carbonaceous matter in an inert state, or in combination with hydrogen, the author attaches due importance to the application of lime and alkaline salts; the former, when slaked, for rendering carbonaceous matter soluble, and the latter for effecting the same purpose, and from parting with their oxygen, changing hydrocarbonate into oxycarbonate. He laments that so much nutritive matter should be allowed to drain away from our dunghills, as this matter consists partly of the urine of animals, all of which more or less contains alkaline salts; and recommends that it should either be thrown back upon the heap, or used pretty fresh, as liquid manure, diluted with from four to six times its quantity of water. In making liquid manure from rotten dung, he recommends the addition of alkaline salts in the proportion of 1 ounce of potash to 1 cubic ft. of dung, and 4 gallons of water; and, if necessary, for hastening the decomposition, 1 quart of the powder of slaked lime. A good deal is said respecting the effectiveness of the serum of blood as a food for plants, respecting which a long communication appeared some time ago in this Magazine. When, from an excess of hydrocarbonate, "the leaves of plants are large and spreading, of a yellow colour, and the blossoms fall off prematurely, or the fruit falls off at the kerneling or stoning, or fails to arrive at maturity," the author has used with much success "a solution of nitre, a little while before the blossoms open, in the proportion of 2 ounces of nitre to 6 gallons of water," pouring it on the soil as far as the roots extend" (p. 105.) After bearing for two or three years, of course the trees would require a fresh

application of food of the most nourishing description. Oxymuriatic acid has been tried with much the same results, in the proportion "of a teaspoonful to a gallon of water." (p. 188.)

Finding, upon the whole, much that is interesting, it may reasonably be expected that some parts of the work should be found open to remark. In treating on the causes of failures and the remedies, it appears to me that the author is too sanguine in his ideas, speaking more in the language of a mechanic who perfectly understands all the springs and movements of a piece of mechanism, than of one treating upon organisation, possessed, it is true, of the most perfect mechanism, but mechanism regulated in all its movements by a principle of life, the effects of which are so varied, as to lead to the conclusion that almost every individual is regulated by a system of its own. It likewise appears to me that the author is wrong in some of his ideas, or has got so bewildered in them, as to expose himself to the charge of inconsistency. In illustration of this, I may advert to one of his favourite theories; namely, that the different parts of a plant possess the power of decomposing their food, and of throwing off the excess, as excrement, by the leaves. He states that, of the four elementary substances of which plants are composed, oxygen, carbon, hydrogen, and earth, "as oxygen is the only element whose existence in excess would create disorder, the leaves have the power of expelling it in the form of gas when exposed to the sun: all the hydrogen, carbon, and earth, not wanted for other purposes, are employed in the formation of leaves," &c. I will not dwell on the seeming incongruity of making the leaves depend, as it were, upon chance for their developement, when no more hydrogen, carbon, &c., are wanted for other purposes. I will not even attempt to prove that, besides oxygen, hydrogen might also be expelled as an excrement, if not directly, at least indirectly, as a component part of the water thrown off by the process of perspiration (an office of the leaf which the author, professing to teach us what is necessary of vegetable physiology, either does not believe, or has wholly overlooked): what I want is, a reconciliation between the statement, again and again repeated, that it is not necessary the leaves should expel any principle, save oxygen, and, consequently, that they do not do so, with what is stated in p. 85., that leaves expel immediately oxygen and carbonic acid gas. Again, the author has discovered that no healthy production of plants contains nitrogen; therefore the application of nitrogen must be prejudicial: but, if this be correct, what becomes of the nitrogen contained in the animal substances employed as part of the food of plants? It combines with hydrogen, forming ammonia; which, being lighter than the atmosphere, passes through it. But still there is another query: nitrogen is a constituent principle in our atmosphere; and air is said to be essential to plants: when they imbibe it, what becomes of the nitrogen which it contains? Our author has his answer ready, dignified, too, with the name of "proof;" that, as no healthy production of plants contains nitrogen, therefore plants do not imbibe air. (p. 85.) I make no remarks upon such a proof, or on the seeming anomaly, that beings should possess the power of exhaling, but none of inhaling. I confess my ignorance of the use of nitrogen in vegetation, although it is extremely probable it acts as a moderator of some more active principles, and merely express a hope that, in future, authors will not deem it more philosophical to erect a theory to suit a present purpose, than honourable to confess that ignorance which, in all likelihood, we shall ever feel in relation to many of the phenomena of nature.

It will already be apparent that I do not agree in some of the author's ideas respecting the functions of the different parts of plants; as, for instance, in his avowal that roots are necessary to the production of leaves, but that leaves are not necessary to the production of roots; which, he says, is proved by a cutting without leaves put into the ground protruding its roots before it does its leaves (p. 134.); a proof which may be classed with the non-imbibing air properties of vegetables, or my observation must have been very erroneous. It is

cheering to reflect, however, that the practical directions in general are correct, the author contending that it is necessary, for the process of fructification, that there should be a surface of leaves equal to the quantity of sap taken in by the roots. No one firmly convinced of the elaborating properties, &c., of the leaves could be more careful of them than he is; and, although openly denying this property, he has evidently felt so much conviction of its truth as to lay his own theory open to the charge of inconsistency: in proof of which I would advert to what is said (p. 140. and 141.) respecting the power of a plant to propel its sap in every direction; and of every part of the plant having the power of appropriating to itself the requisite portion, and of passing on the remainder to the leaves, to be employed in their formation, or thrown off as excrementitious; and to what is stated in p. 145., of the sap-inspissating, and, in p. 192., of the food-digesting and food-appropriating properties of leaves. Admiring, as I do, the practical directions given by Mr. Hayward, I regret that there should not be the most perfect harmony between the principles of science which he lays down, and that practice which he professes to deduce from them. Upon the production of varieties, among much that is interesting, will be found some useful hints to the farmer upon cross-breeding; as also directions, at the conclusion of the volume, for turning arable land into pasturage, without losing a year's crop, by sowing the seed in the autumn. In the part on the diseases of plants will be found a new remedy for destroying the red spider; namely, syringing the plants with water in which common salt has been dissolved: a teaspoonful of salt to a gallon of water is as much as can be used with safety; and it will be well to wash the tree with pure water a day or two after the application of the salt. With the part relating to training, &c., I can find no fault; the appearance of the trees, upon paper at least, is splendid, that of the peach in particular: but I may express my doubts of the possibility of keeping the two side-leaders in an equally healthy state in all situations, as we all know that in some situations it is difficult to prevent common standard peaches and nectarines from having their stems cracked, shriveled, &c., by the frost of winter and the heat of summer. Considering the volume likely to be useful, I shall take my leave of it for the present, expressing a hope that, though no price is marked upon it, it has been published sufficiently low to put it within the reach of the working gardener. — *Scientiæ et Justitiæ Amator.*

The Horsechestnut, a lumpish Tree, &c. — At p. 480. of the present Volume of your Magazine, Mr. Blaikie writes as follows: — “One of your correspondents calls a fine horsechestnut a lumpish tree, and says it ought not to be left upon a lawn,” &c. If Mr. Blaikie will have the kindness to refer to my article again (X. 370.), he will find that he was not perfectly correct in quoting what I said, as I did not intimate the necessity of an utter exclusion of the horsechestnut as a lawn plant, but only that it should be sparingly made use of as such. I agree with Mr. Blaikie, that instances may be found where the horsechestnut assumes a different figure from that which might be considered it does on reading my article; and that it may be frequently seen towering up to a considerable height; but, where this is the case, I believe it will be generally found that it has been assisted, and drawn up among, or close to, other trees; at least, this has been the case as far as my experience goes: nevertheless, instances may, perhaps, be found to the contrary, in soils and situations which are congenial towards forwarding its growth in a different way from what I conceive to be its natural habit. One objection which I have to the horsechestnut, as a single tree on a lawn, is, that, in many instances, its foliage forms an exterior dress impenetrable to the eye, so as to exclude from view its ramifications; and another is, that it does not present that irregularity of surface which is necessary to produce that diversity of light and shade so desirable towards rendering it a tree to be classed among the first-rate class of ornamental trees. If I am mistaken in these views, I shall be happy to stand corrected. One word more: does Mr. Blaikie confine himself to the growth of the horsechestnut as it is seen on the Continent? If so, his considerations will,

I think, hardly apply to the subject at issue.— *T. Rutger. Norbiton Park, Kingston, September, 1835.*

The Tottenham Park Muscat Grape.— In your account of Tottenham Park (X. 418.), which contains the most agreeable information respecting the benevolent disposition of the noble proprietor, you make mention of the Tottenham Park Muscat as being well known and generally esteemed, &c. Now, as I have heard gardeners of great celebrity express their conviction that there was no difference between it and the common muscat when grown under similar circumstances; and as, from what has been represented to me to be the grape in question, I should feel inclined to come to the same conclusion, I think it highly necessary, for setting the matter at rest, that you, or rather Mr. Burns, should give an account of its genuine character, in order that gardeners may know whether they have been supplied with the true article or not. It will also be necessary to state whether there are many plants of the same sort at Tottenham Park, and if they all exhibit the true marks of their illustrious prototype. This information is the more necessary, as, in conversing lately with two young gardeners upon the subject, they both agreed in the great superiority of the size of the berries of the Tottenham vine; and one of them, who had cultivated a vine raised from an eye of the identical plant, which he had often seen, said he could not account for the somewhat general idea, that there was no difference betwixt the common and the Tottenham Muscat, unless upon the supposition that the former must have been given to the purchasers instead of the latter.— *Scientiæ et Justitiæ Amator. June, 1835.*

The Coiling System, &c.; in reply to Mr. Mearns, p. 490.— Having carefully read Mr. Mearns's answer, I feel sorry to say that, in my opinion, it is very unsatisfactory. To make a reply, therefore, to that which is no decisive answer to my letter, is entirely out of the question; but, lest my silence should be construed as tantamount to a confession that I was satisfied with Mr. Mearns's statements, I consider it to be my duty simply to state the following propositions, as an act of justice to myself, and to allow Mr. Mearns a full opportunity of correcting my misconceptions:—

1. The distinguishing characteristic of the coiling system, as represented by Mr. Mearns previously to the writing of my paper, consisted in the certainty of obtaining a great crop the first season.

2. Mr. Mearns formed such an opinion without possessing adequate proofs.

3. That, having a perfect right to form what anticipations he thought proper, and even to publish these anticipations, he was also bound to acquaint the public, when they were not fully realised.

4. That his expectations were not realised, which is evident even from the facts of his last letter, taken in connexion with his former epistles.

5. That all the arguments I adduced against the utility of the system, so far as the first season is concerned, remain as yet unrefuted; though I readily grant that Mr. Mearns is very successful the second season: but I contend that obtaining a crop in the second or third season formed no part of Mr. Mearns's first papers.

Lastly, that all the questions I put remain unanswered, with the exception of one relating to the Constantia vine; upon which I am unwilling to offer any remark, feeling confident that Mr. Mearns must see the impropriety of a statement, in which he asserts there was no deception in describing as a rootless shoot a plant which he admits possessed, at least, something of the nature of a root. In conclusion, I beg to assure Mr. Mearns, that I am at all times open to conviction; that I commenced this enquiry upon public grounds, and those alone; that, previously to doing so, from having lived for two years under a very intimate friend of his own, I did then, and do now, entertain towards him feelings of high respect, on account of the good which he has been the means of accomplishing; and that, far from detracting from the honour justly his due, or wishing to cramp his efforts, it is my heartfelt desire that, by directing his mental energies to the substantialities of the profession, he may be the means of diffusing amongst us sound practical and scientific information.— *Robert Fish. Hyde Park Corner, London, September, 1835.*

The Coiling System, by Mr. Mearns, &c. — Having no desire to protract unprofitable discussion, I shall not trespass at great length on the patience of your readers. I must, however, assure Mr. Fish, that in having “voluntarily” entered the field, as he is pleased to term it, I was induced to do so wholly in consequence of the uncalled-for remarks with which the prefatory part of his former paper was accompanied; and from a conviction of the injustice of those remarks, as well as the luxuriant and not very dispassionate comment, which, instead of leading to truth, is seldom known to have any other than the most opposite tendency. It is this of which I would complain, and from which I also deem it essential discussion should be “protected,” if its object be truth. I would further assure Mr. Fish, that he need evince no uneasy misgiving of himself, for I by no means consider him “a simpleton;” but, if he would be thus indignant at the possibility of his own assertions being doubted, because unattended with proof, on what principle does he demand of others that which in himself he has deemed unnecessary? I shall not, however, enter here into the merits or demerits of the system in question, but shall leave others to form their own estimate of it. Like all other new systems, it will be, no doubt, often tried, and will be praised or censured according to the degree of success which has attended each experiment. All I contend for is, that Mr. Mearns has not overrated its advantages, as far as concerns his own experience. He has acted as a liberal-minded man would do, by explaining the practice which he has himself followed with success; but, surely, it does not follow, that, because he has done this, he must needs be held responsible for the success or failure of others. — *Robert Marnock. Sheffield, September 10. 1835.*

Shriveling of Grapes in Vineries, &c. — I have read, in some one of your former Numbers, that you had no doubt but that a great many persons found out causes and effects at the same time; and, for want of registering and circulating them, a great deal of useful information was lost. This, it is probable, often is the case; and I am convinced there would be a great many more experimental communications sent to your Magazine, were it not that practical gardeners are often afraid their neighbours would laugh at their scribble and bad grammar, &c.; but I beg to assure my bad-scribbling brethren of the spade, that I have no doubt but a great many communications, which we read in your Magazine, have been thrown into Mr. Loudon’s grammar mould, and cast into shape before they make their appearance. I shall therefore not again attempt fine writing, but having been troubled with the shrinking or shriveling of grapes, more or less, for several years, I am determined, at all hazard, to add my testimony to that of Mr. Parks, that some good may be effected by leaving air in the house all night, &c. &c. I have two vineries under my superintendence, one of which has a succession pine-pit in it, and the other a border inside for the vines to grow in that are planted on the back wall, with a row in the middle, which are trained up perpendicular rods to the glass. The house with the succession pit in it I commence forcing about the middle of January, and the other I commence when the natural season stirs the buds. This house is for late grapes, to last till Christmas, which they generally do, and sometimes till after. In the early house I never had any shriveling of any consequence, as the bunches of grapes off those vines, when just ripe, would always roll on a plate like a melon. I should not have mentioned this house, or the grapes in it, had it not been to show the difference of the interior of the two houses, as everything else, as to depth of border, &c., is the same, save and except that the vines in the late house are ten years old, and those in the early house are seventeen years old. But, to the point. Three years ago, as soon as the grapes were stoned, I commenced leaving air in my late house all night, and such a strong fire in the front flue as would keep the thermometer at from 70° to 75°: this plan, I am quite sure, effected some little good, though not to the extent desired. Last year I proceeded on the same plan, and with some little better success. Still I was determined to persevere; and, feeling confident that it was owing to accumulated damp, I this year

covered the floor of my house, which is laid with tiles, with dry chaff, about 2 in. thick, thinking that it would condense the moisture which arose from the border, or, in other words, would prevent the heated air in the house from attracting moisture out of the colder body, that is, the border. The same takes place in all cases where two bodies are placed in juxtaposition, the one cold and the other hot: no matter whether it be hot iron and cold iron, or hot air and cold earth; the one assimilates to the other, until they become of one uniform heat. Though the border, in this case, did not become heated to the same degree as the house, yet the expansion of the water contained in the earth, when attracted by heated air, of course supplied the house with (as I thought) too much moisture at a time when the grapes required a dry atmosphere. The dry chaff was applied when the grapes commenced colouring; and the top and front sashes were left about 4 in. open all night, with a fire in the front flue; and now (Sept. 15.) my grapes are ripe; and, though they are not quite clear of shriveled berries, yet they are fit to be sent to any gentleman's table. I think that it is not only too much moisture that causes the footstalks of the berries to elongate too much, but too much heat also. This I can always avoid, in my first house, by giving plenty of air; but, owing to my late vines flowering in warmer weather, I never can give air enough to keep the thermometer below the point I could wish. I intend beginning to force them a month earlier next year; then, I think, I shall be able to keep the house cool enough up to the time of flowering; for the footstalks of the berries never elongate after the anthers have burst. This, I think, will be giving them another fair trial; and, whatever the success may be, I will faithfully record it in your Magazine, so that Mr. Parks and others may see it. I must confess, however, that I do not see my way clearly, as to whether the length of the footstalks has anything to do with the shriveling of the grapes, further than this, that the way to prevent insects and disease is to keep everything in robust health, which, when the footstalks are weak, the bunches cannot be considered to be; for I beg to ask what caused the footstalks of the red and white currants, and those of the Mayduke cherries, to be affected in the same manner as the footstalks of the grapes, during the past summer? This almost convinces me that such a hypothesis cannot be admitted. — *Agronome's Nephew. September 19. 1835.*

Destroying the White Scale on the Pine-Apple, &c. — I perceive that a correspondent, who signs himself L. O. Z., has, at p. 433., pointed out some of the errors in my observations upon the white scale. The first passage to which he objects he has quoted partially and incorrectly; but, passing over that, as of no importance, I will at once proceed to the disputed point, and then state briefly some of the facts whereon the opinion I hold is founded. I have maintained that the white scale which infests the pine plant cannot be effectually destroyed without injury to the plant, unless the insects are displaced. L. O. Z. is convinced (for he has had "ocular proof") that the white scale may be destroyed upon the plants, and that, too, by several different processes. He, in fact, asserts that this most destructive enemy of the pine plant may be annihilated without the slightest difficulty. Among other reasons, I insisted on the necessity of displacement, because I know an instance of more than one published remedy having failed, when fairly tried, with plants which were afterwards cured by the method I recommended (p. 186.). Further, there is a garden a few miles from me in which four different gardeners in succession have, for forty years, vainly endeavoured to extirpate this insect. My informant, the present gardener, used Speechly's nostrum, and it decidedly failed; it, however, perfectly destroyed the mealy bug. I hold, too, that the great number of recipes which from time to time have been made public is a strong proof that most of them are worthless; for it is evident that a gardener who had dirty plants would try some of the methods lauded by the inventors as "safe and effectual," in preference to risking his plants by trying experiments of his own upon them. For example, if Mr. Dall had not failed with Nicol's method, would he have discovered his own?

This, however, is only negative evidence, and might be met by L. O. Z.'s broadly asserting that he has had "ocular proof" that the white scale may be killed by *several* of the remedies now in use. Few gardeners have been so fortunate as L. O. Z.; few, indeed, have had, or would desire to have, more than one opportunity of ridding their pine plants of this pest: but it seems that he has sojourned in a country which, whatever else it may be capable of producing, is most prolific in the white scale. I think, therefore, that, for the satisfaction of myself and others, he ought clearly and explicitly to detail the whole of the different processes to which he alludes. I am open to conviction; and, as truth is my object, will readily confess myself in the wrong when L. O. Z. has proved me to be so; but at present, in spite of hot water, I continue sceptical. — J. B. W. *September 5. 1835.*

ART. II. *Queries and Answers.*

THE Botanic Garden of Edinburgh in 1682. — "The physicians of Edinburgh were incorporated in 1682 by Charles II., and have their college, with handsome gardens, in the Fountain Close, near the Nether Bow. Here is also an excellent physic garden, on the north side of the city, between the east end of the North Loch and the College Kirk, which lies very low, is extremely well sheltered from the north and east winds, and abounds with simples and exotic plants. Here also silk worms are bred. Dr. Alston, the professor of botany in the university, has also another physic garden on the north side of the outer court of the palace of Holyrood House, which contains a vast variety of curious plants." (*Gent. Mag.*, vol. xv. p. 690.) Can any of our readers inform us if there are any trees or shrubs still existing in either of these gardens, which, from their size or age, are supposed to have been planted by Dr. Alston? If so, what are their names and dimensions? — *Cond.*

Culture of the Vine in Australia. — Of all our colonial possessions, Australia seems the most likely to become eminent as a wine country, and it is desirable that the public should be furnished with some account of the progress of the culture of the vine in our Australian colonies. I see from advertisements in New South Wales papers, that vineyards, containing some thousands of vines in full bearing, are attached to most farm properties; but I do not see colonial wine in the list of home produce in the price-currents. The interesting work of Mr. Busby, who travelled through France and Spain to observe the mode of cultivating the vine in those countries, for the philanthropic purpose of introducing an improved mode of culture into Australia, has rendered the success of his exertions an object of general interest. Mr. Busby is, I believe, at present in New Zealand; but perhaps Mr. Shepherd, to whom Australian horticulture is under great obligations, would supply the information.

An account of the mode of culture of the vine in Australia, of the necessity for trenching* and irrigation, of the kinds that are the most approved, of the quality of the wine, and the prospects of the colony as a wine country, would be gratifying to many, as well as to — *Cicestriensis.* *August 6. 1835.*

The Canker on Cucumber Plants. — Among the most useful and experimental remarks given in your Magazine, I do not recollect seeing a remedy for that destructive disease the canker in the cucumber. This disease is prevalent, and most ruinous to some cultivators, during the winter months; yet no one has informed us in your Magazine how it is to be removed. Should this meet the eye of any gardener who has practically proved a cure, by detailing his method through your Magazine, he will render a very great service to the public, and to none more than to — *Charles Shuttleworth, Broxbourn Bury, September 30. 1835.*

* Dr. Lang, in his recent work on the colony, states that the utility of trenching is a disputed point among cultivators.

ART. III. Covent Garden Market.

		From		To				From		To					
		£	s. d.	£	s. d.			£	s. d.	£	s. d.				
<i>The Cabbage Tribe.</i>															
Cabbages, per dozen :		0	1	0	0	1	6	Tarragon, per dozen bunches		0	4	0	0	0	
White - - -		0	1	6	0	2	6	Fennel, per dozen bunches		0	2	0	0	0	
Red - - -		0	4	6	0	6	0	Thyme, per dozen bunches		0	2	0	0	2	6
Plants, or Coleworts -		0	2	0	0	2	6	Sage, per dozen bunches -		0	2	6	0	3	0
Savoy's, per dozen -		0	2	0	0	2	6	Mint, per dozen bunches -		0	2	0	0	3	0
Brussels Sprouts per $\frac{1}{2}$ sieve		0	2	0	0	0	0	Dried Peppermint, per dozen							
Cauliflowers, per dozen -		0	6	0	0	8	0	bunches -		0	1	6	0	0	0
Broccoli, per bunch :								Marjoram, per dozen bunches		0	2	0	0	0	0
Green - - -		0	1	6	0	2	0	Savory, per dozen bunches		0	2	0	0	0	0
Purple, - - -		0	1	0	0	1	6	Dried Basil, per dozen bunches		0	2	0	0	0	0
Cape - - -		0	1	3	1	6	0	Rosemary, per doz. bunches		0	3	0	0	0	0
<i>Legumes.</i>															
Kidneybeans, per half sieve		0	2	6	0	3	6	Dried Lavender, per dozen							
<i>Tubers and Roots.</i>															
Potatoes - { per ton		4	10	0	5	0	0	bunches -		0	1	6	0	0	0
- { per cwt.		0	4	6	0	5	0	Marjoram, per dozen bunches		0	2	0	0	0	0
- { per bushel		0	2	6	0	2	9	Savory, per dozen bunches		0	2	0	0	0	0
Jerusalem Artichokes, per								Dried Basil, per dozen bunches		0	2	0	0	0	0
half-sieve -		0	1	3	0	1	6	Rosemary, per doz. bunches		0	3	0	0	0	0
Turnips, White, per bunch		0	0	5	0	0	6	Dried Lavender, per dozen							
Carrots, per bunch -		0	0	4	0	0	6	bunches -		0	1	6	0	0	0
Red Beet, per dozen -		0	1	6	0	2	6	Tansy, per dozen bunches -		0	2	0	0	0	0
Skirret, per bunch -		0	1	3	0	1	6	<i>Stalks and Fruits for Tarts,</i>							
Scorzoner, per bundle -		0	1	0	0	1	6	<i>Pickling, &c.</i>							
Horseradish, per bundle -		0	1	6	0	4	0	Vegetable Marrow, per dozen		0	0	6	0	0	9
Radishes :								Gourds, per dozen -		0	1	0	0	1	6
Red, per dozen hands (24		0	0	6	0	0	9	Tomatoes, per sieve -		0	4	0	0	5	0
to 30 each) -		0	0	2	0	0	3	Capsicums, per hundred -		0	2	0	0	4	0
White Turnip, per bunch								<i>Edible Fungi and Fuci.</i>							
<i>The Spinach Tribe.</i>															
Spinach { per sieve -		0	1	6	0	2	0	Mushrooms, per pottle -		0	0	6	0	0	9
{ per half sieve -		0	1	0	0	1	3	Morels, per pound -		0	12	0	0	14	0
<i>The Onion Tribe.</i>															
Onions, old, per bushel -		0	3	6	0	4	0	Truffles, per pound :							
For pickling, per half sieve		0	2	0	0	2	6	English - - -		0	12	0	0	0	0
Leeks, per dozen bunches -		0	1	0	0	2	0	Foreign - - -		0	12	0	0	14	0
Garlic, per pound -		0	0	6	0	0	0	<i>Fruits.</i>							
Shallots, per pound -		0	0	6	0	0	8	Apples, Dessert, per bushel :							
<i>Asparaginous Plants,</i>															
<i>Salads, &c.</i>															
Artichokes, per dozen -		0	2	6	0	3	0	Ribston Pippins - -		0	7	0	0	9	0
Lettuce, per score :								Golden Pippins - -		0	8	0	0	10	0
Cos - - -		0	1	6	0	2	0	Fearn's Pippins - -		0	5	0	0	7	0
Cabbage - - -		0	0	9	0	1	3	Downtons - - -		0	5	0	0	7	0
Endive, per score -		0	1	6	0	2	6	Pears, Dessert, per dozen :							
Celery, per bundle (12 to 15)		0	1	0	0	2	0	Gansell's Bergamot -		0	2	6	0	4	0
Small Salads, per punnet -		0	0	2	0	0	3	Crassane - - -		0	1	0	0	3	0
<i>Pot and Sweet Herbs.</i>															
Parsley, per half sieve -		0	0	6	0	2	6	Marie Louise - -		0	1	6	0	2	6
								Swan's Egg, per half-sieve		0	2	0	0	2	6
								Bishop's Thumb - -		0	3	0	0	3	6
								Quinces, per half sieve -		0	3	6	0	5	0
								Berberries, per half sieve -		0	4	0	0	0	0
								Walnuts, per bushel -		0	8	0	0	10	0
								Chestnuts, English, per peck		0	2	6	0	3	0
								Filberts, English, per 100 lbs.		2	5	0	2	10	0
								Pine-apples, per pound -		0	3	6	0	6	0
								Grapes, per pound :							
								Hot-house - - -		0	1	0	0	2	6
								From the open wall -		0	0	3	0	0	0
								Melons, each - - -		0	2	6	0	0	0
								Walnuts, per pound -		0	1	0	0	2	6
								Lemons { per dozen -		0	1	6	0	2	6
								{ per hundred -		0	10	0	0	16	0
								Brazil Nuts, per bushel		0	14	0	0	16	0
								Spanish Nuts, per peck		0	5	0	0	6	0
								Turkey Nuts, per peck		0	5	0	0	0	0

The accession of rain, since the last report, has materially altered the whole feature of supply to the market. We have already many good articles in usual demand at this season, such as savoys, broccolis, autumn cauliflowers, coleworts, turnips, &c.; but, as the demand for many of these articles is quite equal to the supply, they still continue to obtain good prices, so as to remunerate the cultivator for his extra expense of labour during the extremely hot and dry weather of the preceding summer. Potatoes are, as yet, rather short of the usual quantities furnished at this season. The rainy weather has, in many instances, impeded their being taken up as extensively as usual; and, as the season is not yet sufficiently advanced to allow of shipment from the out-ports, our markets are but supplied to the extent of their current demand. Turnips are coming to hand now generally; but, as they are at this season an article of very usual consumption, and, from the extreme dryness of the preceding months, not of very good quality, the best fetch excellent prices. Carrots are abundant at present, but they are also in good demand. Onions are by no means so generally furnished as usual at this season: they are in good demand at a fair price. Savoys and coleworts come to hand much better than might be ex-

pected; they at present realise good prices. Broccoli is not yet very abundant; that of good quality is wanted: all other vegetables, such as celery, endives, lettuces, leeks, &c., are supplied in moderate quantities. Of fruits, we have as yet a great abundance. Pears have been generally plentiful; the choicer varieties are in demand. Grapes have not generally ripened so well as they did last season upon the open walls; but so many are now grown in houses, that we at all times have a good supply: considerable quantities have also been imported from Holland: prices have been as yet very moderate. — *C. G. M. Oct. 24. 1835.*

ART. IV. *The London Horticultural Society and Garden.*

SEPT. 15. 1835. — In the list of works presented, these seem the more noticeable to gardening and farming readers:— On Warming and Airing Buildings, and Questions relating to Fires in General, the Draught of Smoke, &c. *Europæische Cerealia.*

Exhibited. Antigua queen pine-apple, from Mr. W. Greenshields, F.H.S. *Gladiolus præcox*, from J. Rogers, Esq., jun., F.H.S. *Manétia cordifolia* (glabra), *Eriostemon salicifolius*, *Thunbergia leucantha*, and China asters, from Mrs. Lawrence, F.H.S. *Datura Métel* yellow double variety, from Mr. T. Cooper, gardener to Mrs. Law, Canon Hill, Maidenhead. *Pardanthus chinensis*, from Mr. Low. *Hedychium angustifolium*, seedling pine-apple, and Canon Hall Muscat grapes, from Mr. R. Buck, F.H.S. A collection of flowers of kinds of dahlias, from Messrs. Chandler. From Mr. Joseph Kirke, F.H.S., Brompton, the following articles: apples of the kinds Dutch codling, Hawthornden, Kirke's Duchess of Oldenburgh, Manks codling, Kerry pippin, Shepherd's Newington, yellow Ingestrie, royal pearmain, Grange pearmain, golden noble, Ribston pippin, Kirke's Emperor Alexander, Kirke's seedling, scarlet pearmain, and Nonesuch; Kirke's seedling plum; Rosanna peach, from a standard tree in the open ground; wheatear carnations.

Also, from the Garden of the Society. *Agératum mexicanum*, *Amaryllis Belladonna*, *Nicotiana glauca*, *Linaria dalmatica*, *Bignonia grandiflora*, *Chelone barbata*, *Madia elegans*, *Tournefortia heliotropioides*, *Diplopappus incanus*, *Escallonia montevidensis*, *Coreopsis Atkinsoniana*, *Lupinus ornatus*, *Mimulus cardinalis*, China asters, dahlias, and seedling dahlias. Grapes: Cochin China, and Grove End sweetwater. Peaches: late admirable and chancellor. Pears of the kind reine des poires: this is a great bearer, which is the most than can be said of it now, since the introduction of the new Belgic sorts; rather crisp. Apples: reinette de Laak, a handsome table apple, good bearer; Hollandbury, Wormsley pippin; white russet, an aromatic Irish apple; Gravenstein, hot summers agree with this; transparent de Christ, received from De Candolle; the tree has a broad flat foliage, like those of Russian origin; late Carse of Gowrie, a very good kitchen apple.

Oct. 6. — *Read.* A treatise on the cultivation of *Crámbe marítima*, by Mr. W. Phelps.

Exhibited. A seedling pine-apple, Gansell's bergamot pears, and Welbeck pears, from Mr. Buck. A Mendoza melon, from John Williams, Esq., Pit-maston. A new variety of grape, from Mr. George Mills: this was the fox grape of North America. A collection of flowers of varieties of dahlias, and a stand of flowers of seedling kinds of dahlias, from Mr. J. Goodhew, gardener to Rev. Mr. Green, Blackheath. A collection of flowers of kinds of dahlias, from Messrs. Chandler. Gansell's bergamot pears and Marie Louise pears, from J. G. Fuller, Esq.

Also, from the Garden of the Society. Flowers: *Verbena venosa*, *Francòia sonchifolia*, *Coreopsis Atkinsoniana*, *Aristolochia chilensis*, *Lupinus ornatus*, *Escallonia montevidensis*; *Solanum aspero-lanatum*, a native of Peru; *Amaryllis Belladonna*, *Mimulus cardinalis*, *Chirònia peduncularis*, *Calánthe densiflora*, *Delphinium grandiflorum*, *Ceanothus azureus*, *Gaultheria Shallon*, dahlias, and seedling dahlias. Fruit: Catharine peaches. Pears: Seckle; fondante

Van Mons, an excellent kind of standard pear; beau St. Bernard, a new sort of the doynné family and quality; Henri Quatre, a very excellent bearer, of good quality, standard; brown beurré, and Gansell's bergamot. Apples: Gravenstein, pomme de Neige, pigeonet, Beat's pippin, Hollandbury; Orack Elma, a Persian apple, with a bloom, flesh firm and somewhat perfumed, probably a good kitchen apple (the tree, as yet, has not shown symptoms of canker, like others from the same country); golden reinette, autumn pearmain, hoary morning, king of the pippins.

Oct. 20. — *Read.* Observations on the growth of the potato, by Sir G. S. Mackenzie, Bart.

Exhibited. Louise bonne pears and true golden pippin apples, from Mr. Whiting, gardener to Lord Tyrconnel. Swan's egg pears, from the gardener of W. Stevens, Esq., communicated by Mr. J. Maher. Seedling heartsease, and flowers of dahlias and seedling dahlias, from Mr. Glenney, F.H.S. *Cymbidium sinense*, and flowers of dahlias, from Mrs. Marryatt. *Oncidium papilio*, *Brassia caudata*, *Cattleya Loddigèsii*, *Catasetum tridentatum*; *Oncidium sp. nova*, Rio; *Rodriguezia laxiflora* and *planifolia*, from Messrs. Rollisson. A citron melon, from Mr. Buck, Blackheath.

Also, from the Garden of the Society. *Escallonia montevidensis* and *rubra* var., *Salvia splendens* and *cardinalis*, *Solanum aspero-lanatum*, *Amaryllis Belladonna*, *Madia elegans*, *Cassia acuminata*, *Lupinus ornatus*, *Oncidium Lanceanum*. Pears: Doynné blanc, from a wall; doynné blanc, off a plant the stock of which is a mountain ash, the flavour much the same as that of the preceding; Marie Louise, from a wall; beurré de Capiaumont, this kind still maintains its character of bearing abundantly, and of withstanding the spring frosts as a standard; Urbaniste; Comte de Lamy, a good bearer as a standard, but has suffered by the dry weather, an exceedingly sweet rich pear; Duchesse d'Angoulême, brown beurré, moorfowl egg, poire d'Amande; poire Neill, of but half the size usual from standards, and the trees, though vigorous, are sure to be broken by the weight of the fruit, if not supported (the earliest and best blossoms were killed, and these fruits are not so good as usual, owing to the drought.) Apples: golden reinette, king of the pippins, Fearn's pippin, pomme de neige; gloria mundi, Bedfordshire foundling, these two are good kitchen apples; Burn's seedling, pigeonet; Warwickshire pippin, a handsome table apple; Petworth seedling, Loan's pearmain, and golden russet nonpareil. Suffolk thorn pear, a seedling from Gansell's bergamot, from A. Archdeacon, Esq.

ART. V. Obituary.

MR. JAMES DRUMMOND, that indefatigable botanist, who has sent home so many interesting plants to the Glasgow Botanic Garden, and to various others, has fallen a victim to the climate of Cuba, in the prime of life, and just as he was on the point of exploring the botanical riches of that portion of the United States which, next to Texas, held out the best prospect of rewarding his indefatigable exertions, namely, Florida. He has, indeed, accomplished enough, by his zeal and researches, to secure to himself a lasting name throughout the botanical world; yet it is impossible not deeply to regret the loss, both as concerns our favourite science and his friends. He had made arrangements for a grant of land in the interior of Texas, so that his prospects for the maintenance of his family were brighter than ever; and he could not have failed, by the proximity of his intended residence to the hitherto unexplored mountains of North Mexico, to render yet greater service to that science to which he was so ardently devoted, and in the pursuit of which he has thus fallen a sacrifice. (*Bot. Mag.* t. 3441., October, 1835.)

Phlox Drummondii Hook., a most beautiful species (see p. 586.), is one of the last plants he sent home.

THE
GARDENER'S MAGAZINE.

DECEMBER, 1835.

ORIGINAL COMMUNICATIONS.

ART. I. *A Summary View of the Progress of Gardening, and of Rural Improvement generally, in Britain, during the past Year; with some Notices relative to the State of both in Foreign Countries.*
By the CONDUCTOR.

GARDENING being coeval with building was, like that art, at its commencement, rude, and confined entirely to the production of culinary vegetables and fruits. With the progress of architecture, gardening also kept advancing, till, from being an art of culture merely, it at last became, like it, an art of design and taste. Passing over the history of gardening in the ages of antiquity, and in its dormant state during the middle ages, we come to its revival, in common with that of the other arts, in the 16th century. In the age of Louis XIV. a great impulse was given to gardening, as an art of design, all over Europe. During the same age, also, the first successful attempt to establish the art of culture on something like general principles was made by Quintiney, the contemporary of Le Nôtre.

In England, gardening made considerable progress under Henry VIII. and Elizabeth, but more under Charles II., William III., and George I., II., and III. The large importations of plants from America during the early part of the 18th century, by throwing a number of new and highly ornamental trees and shrubs into the country, formed, no doubt, one of the causes which gave rise to the modern style of laying out grounds. That style became general about the middle of the last century, and gave a powerful stimulus to nurserymen, and to the head gardeners of gentlemen, all over the country. Towards the end of the century, the force of this impulse had, in a great measure, abated; and the publication of the *Essays on the Picturesque*, by Uvedale Price, came in aid of the natural decline of what may be called the Brownian system of laying out grounds.

About the beginning of the present century, gardening, as an art of culture, began to attract attention: first, perhaps, in the

royal kitchen-gardens at Kensington, in consequence of the success of the king's gardener, Mr. Forsyth, in renovating old trees, and of the premium given to him by parliament; and, secondly, in consequence of the establishment of the Horticultural Society, the originators of which were Mr. Forsyth, Sir Joseph Banks, T. A. Knight, Esq., and one or two others. Perhaps no association formed in this country has ever had more influence in its own department than the London Horticultural Society. Among its members are, or were, enrolled the names of all the principal nobility and gentry in Britain, and of most of the crowned heads of foreign countries. This at once rendered horticulture a fashionable pursuit; and every one knows that no innovation can be proposed with effect until it becomes fashionable. The Horticultural Society of the metropolis soon gave rise to societies of the same description in the provinces; and there is now scarcely a county in Britain or Ireland that has not one or more horticultural societies. The example has also been imitated on the continent of Europe, in North America, and in British India.

When the London Horticultural Society became firmly established, it was found that its funds could support a garden; and no sooner was this formed, than botanical and horticultural gardens also became fashionable throughout the country, to as great an extent as the funds of the provincial societies would admit. There are now several botanical and horticultural gardens in England, Scotland, and Ireland. Whenever the municipal regulations of towns shall be so altered as to admit of these gardens being formed at the general expense of the town, for the recreation and enjoyment of all the inhabitants, it is highly probable that they will rapidly increase — perhaps, till a public garden shall become as common as a public market-place.

In taking a general review of the history and present state of gardening in all countries, the characteristics which distinguish the present age, as compared with former ages, are, cooperation, with reference to the means employed, and general benefit, with reference to the end obtained. In the earlier ages, up even to the end of the last century, almost all gardening improvements were effected by kings, nobles, or other wealthy or powerful individuals, with no other view than that of the personal enjoyment of themselves and their particular friends; but, at present, these improvements are effected through the influence of premiums, and other marks of distinction, conferred by societies on individuals, and by commercial speculation. In this way the benefits procured are extended to the whole of society; and those vegetable productions, and even flowers and fruits, which, fifty years ago, were exclusively found in the walled gardens belonging to the mansions of wealthy capitalists or landholders, are now abundant in the hedged enclosures of roadside cottages.

It deserves to be mentioned, for the honour of most of the provincial horticultural societies, that they not only direct their premiums for cottagers chiefly to those useful productions which it is desirable should be introduced into cottage gardens, but even give rewards for flowers and other ornamental productions, and also to those cottagers who keep their gardens in best order. These rewards are also, in many places, articles of such use and value (such as silver teaspoons, &c.), as to make the cottager feel that he has not been wasting in unprofitable pursuits the time which some would think ought to be entirely devoted to the maintenance of his family. Where the practice of giving premiums to cottagers has been persevered in for a few years, more especially if a superior description of cookery could, at the same time, be taught them, the benefit to that class of society would be immense.

In taking a general view of the progress of gardening, both as to its advancement as an art, and its practice in the country, the subject admits of two principal divisions; the first of which relates to the art itself, and may be included under landscape-gardening, arboriculture, floriculture, and horticulture; and the second may be denominated the statistics, or actual state, of gardening, whether in respect to gardens or gardeners.

GARDENING AS AN ART.

Landscape-Gardening.—It must be admitted that this department of the art is that which is least understood. According to some, there was no such thing as landscape-gardening previously to the introduction of the modern style; according to others, it includes every mode of laying out grounds, ancient or modern. In this last sense we use the term landscape-gardening; and we think we may claim the merit for ourselves of having, in this Magazine, distinguished and defined the four different modes of creating artificial landscapes, which constitute the geometrical, the picturesque, the gardenesque, and the rural styles. The geometrical style consists in laying out and planting grounds in geometrical figures. The picturesque style is characterised, in regard to means, by the trees and shrubs being planted at irregular distances, as they are in natural forests and forest groups; and, in regard to effect, by its forming such masses of wood, and groups of trees and shrubs, and such a general union of these in compositions, as would look well if painted. The gardenesque style of landscape is characterised, as to means, by the trees, shrubs, and herbaceous plants, whether in masses or groups, being planted at such distances as never to be allowed to touch each other; and, in regard to effect, by masses and groups, which, while they show the form of each individual tree and shrub at a near view, yet, at a distance, form masses and groups

such as, though they would not be made choice of in preference, yet would not be rejected, by a landscape-painter. Comparing the picturesque and the gardenesque styles of landscape, the former may be said to study most the effect of the whole, as a picture or landscape, which might be painted; and the latter the beauties of the whole, as a garden scene for walking in, and enjoying the trees and plants individually. Compared as to the intensity and duration of the enjoyment, the picturesque style may be said to address itself chiefly to one class of admirers, viz. the lovers of landscape scenery; and the gardenesque not only to the lovers of landscape scenery, but to the botanist and the gardener. The latter, therefore, embracing, as it does, more than one kind of beauty, stands higher in the scale of art than the former. Rural, or natural, landscape is characterised by being rural, or natural, as contrasted with the artificial scenery by which it is, or may be, surrounded in the given locality: it becomes, therefore, only an art, when it is known to be the work of man. To us it appears that, when the terms designating these four styles are properly understood, so as to be readily applied to artificial scenery by gardeners, it will be of essential service to them in laying out grounds: it will prevent them from endeavouring to bring together, in the same garden or scene, beauties which are incompatible with each other: for example, the gardenesque and the picturesque in the same shrubbery, or on the same lawn; or, in other words, handsome single specimens and picturesque groups: or from attempting to combine the gardenesque with the natural; in other words, from mixing portions of what may be called highly refined scenery, composed of exotic trees and plants, with fine turf and gravel, with portions of the ordinary nature of the locality. The introduction of herbaceous flowers among trees and shrubs is a subject connected with landscape-gardening which, at present, is not at all understood by practical men. When herbaceous flowers are introduced in picturesque scenery, they ought to be allowed to run wild, and the surface on which they are planted should never, in the slightest degree, be cultivated; but when they are introduced into gardenesque scenery, it must only be in situations where the particular kind of plant will thrive and come to perfection; and the ground about each plant must be highly cultivated. In the rural style, no foreign plants whatever, and no marks of culture, must appear. (See p. 412.)

The publications on landscape-gardening have hitherto, for the most part, been of too abstract and metaphysical a nature to be of much use to practical gardeners; but we hope to remedy that evil in this Magazine, by directing the attention of gardeners to one point at one time, and reducing every principle to practice in such a familiar manner as not to be misunderstood. It will readily be granted, by those who are acquainted with this sub-

ject, that there are very few persons, whether gardeners or their employers, who are capable of reducing to practice the principles laid down in the works of Whately, Mason, George Mason, Knight, Price, and others; and the reason of this is, that the elementary steps necessary to the full comprehension of these writers are wanting in their respective works.

There are two points in landscape-gardening in which, we think, some progress has been made during the last two or three years, at least by reading gardeners: the first is, in adjusting flower or shrubbery beds to the bends of the walks adjoining which they are placed, so that the position and form of the one accounts for that of the other; and the next is, in the keeping of walks nearly brimful of gravel, and clipping the grass on their edges, so as completely to conceal the soil, instead of paring them, and showing the raw naked earth. We noticed both these errors in 1831 (Vol. VII. p. 401.): we have subsequently adverted to them on various occasions, and the first will be found illustrated by a number of engravings of flower-gardens in the present volume. We consider this as a positive point gained in the advancement of landscape-gardening; and the next step, we hope, will be the union, or grouping, and connexion of flower-beds on a lawn, in such a manner as to form a whole, or a series of wholes. In consequence of the great increase of the taste for floriculture, numerous flower-gardens have lately been laid out on lawns throughout the country, most of which show a glaring deficiency in these respects. We have pointed out the prevailing errors, in our criticisms on the competition designs for flower-gardens in this volume, p. 237. 284. 352. and 449., already referred to.

Arboriculture may be considered with reference to the use and effects of trees, collectively, in plantations; and their use, beauty, or botanical interest, as individuals. With reference to useful plantations, the greatest improvement which has been made, within the last two or three years, is, the plan of planting in rows, at regular distances, different kinds of trees, in the same plantation; and, from the nature of the trees and the soil, pre-determining the time when each sort shall be cut down. This is decidedly the most scientific method of planting for profit; and though something of the kind has been suggested in France, in the case of avenues, as shown by M. Baudrillart, in his *Dictionnaire Général des Eaux et Forêts*, Paris, 1823, 4to, in the article *Projet d'Avenues Perpétuelles*, yet the merit of having applied the system to masses of plantation in Britain belongs exclusively, we believe, to Mr. Charles Lawrence, who had no knowledge of M. Baudrillart's *Projet*. (See Mr. Lawrence's article on the subject, Vol. X. p. 26.) Planting, with a view to ornament, may be classed under the same heads as landscape-gar-

dening. Trees may be arranged geometrically; with a view to picturesque beauty; to individual or gardenesque beauty; or in imitation of local nature. Arboretums are, or ought to be, arranged according to the gardenesque mode. In this department of planting some progress has been made, during the last year, by the adoption of the gardenesque style in the extensive arboretum lately commenced by His Grace the Duke of Devonshire at Chatsworth; the only one which we know of in which room has been left for the trees to attain their full size.

The taste for foreign trees and shrubs in Britain is decidedly on the increase; though, with the exception of the plan pursued in the arboretum at Chatsworth, no improvement has taken place in the mode of planting them. The father of this taste in France, M. Du Hamel, the contemporary of Miller and of Collinson, while advocating this taste, in preference to that for florists' flowers, says, "The most beautiful bed of hyacinths or tulips, when the flowers have once faded, leaves nothing but what is withered and unsightly; whilst the flowers of trees and shrubs which generally appear in spring are succeeded by the most vivid green leaves; and, even in winter, after these have dropped, the ramification of the branches and spray is beautiful and interesting." (Preface, p. xviii.) We should be sorry to see the prevailing and increasing taste for flowers diminished in any degree, because their care is the source of health and enjoyment to many who could not easily find a substitute; but as we would wish to see every lady have her flower-garden and conservatory, so we should wish to see every gentleman have his arboretum, or, at all events, a gardenesque plantation of choice trees and shrubs. We would much rather see money employed in this way, than in the transplanting of full-grown trees; where as much is expended in preparing the tree for removal, in transporting it to its place of destination, in planting it, in staking or otherwise fixing it, in mulching the ground round it, and in watering it afterwards, perhaps throughout the summer, as would purchase, prepare the soil, and plant above twenty different species of young foreign trees. It is true, the effect of the full-grown tree is striking and instantaneous; but, supposing that it lives, which, in most cases, is very doubtful, let us compare the enjoyment it will afford to its transplanter, with that which may be derived from planting young trees in properly prepared soil. The old tree, even if it does well, makes very little progress for several years, or, most probably, lingers on, producing, every succeeding summer, a still more sickly and feeble vegetation, till it at last finally decays; while the young trees, even from the first season, are making strong and vigorous shoots, and every year attaining a still greater degree of perfection and beauty. In this way, the ample and visible return made by the young tree, for

the care and trouble bestowed upon it, increases, every season, the enjoyment which its planter derives from it; while the sickly state of the old tree seems a constant reproach to the transplant, who has torn it, by main force, from its original situation. It is always unsatisfactory to the mind, to see an object accomplished at a lavish expenditure, which might have been done, and even better done, at a small cost: it is, indeed, paying too dear for our whistle. It has always appeared to us, that the practice of removing large trees was a certain waste of money for a very uncertain gain, in point of time: and we will venture to assert, what we think every practical gardener will assent to, that, in almost any given situation, if we were allowed to prepare the soil properly, and to make choice of the kinds of trees to be planted, we would, in seven years, produce a tree fit for every purpose in landscape scenery for which a tree could be required; and one equal in bulk to any transplantable tree, with the advantage of being firmly rooted into the soil, and in circumstances to increase in size rapidly every year. This much may be said in favour of planting large trees, that, from its being a difficult feat to perform, and, consequently, when successful, commanding applause, it is sometimes undertaken by those who have neither love for trees, nor taste for planting in the ordinary manner; and that it may, in this way, lead to a taste for planting in those who had none before. The transplanting of large trees, therefore, except in extraordinary cases, and for the sake of showing what art can do, we value only as the means of creating a taste for planting small ones.

A few new species, or varieties, of trees and shrubs have been introduced or brought into notice during the past year, which will be found enumerated under the head of Arboricultural Notices in the succeeding volume, as those for the preceding year (1834) are, under the same head, in the present volume.

Floriculture is, at present, unquestionably the most flourishing department of gardening; and nothing in this way can be more remarkable than the immense number of roses, dahlias, and heartseases raised and sold by commercial gardeners in Britain, France, and Germany. Even the Chinese chrysanthemum has been subjected to British improvement, and a number of new and beautiful varieties have been lately raised from seeds saved at Oxford, and other places in England, and in Guernsey. The establishment of flower shows by the London Horticultural Society, at their garden, has been the means of producing some splendid specimens of what may be called botanical floriculture; as the shows of the Metropolitan and South London Floricultural Societies have of roses, pelargoniums, and florists' flowers. The provincial horticultural and floricultural societies have spread the same taste for flowers throughout the whole country. This taste,

independently of its other good effects, has a decided tendency to the improvement of gardeners in the science of culture generally, from the effects which they see produced by cultivation on certain species, such as the heartsease; by propagation in different manners, the only essential requisite being a bud, whether in a seed, an eye, or a bulb; by hybridising, as in the case of calceolarias and fuchsias, respecting the latter of which some remarkable facts are stated by Mr. Beaton, p. 580.; and by the discoveries made in consequence of attempts at acclimatisation, that many most beautiful plants, hitherto confined to the greenhouse, and, in some cases, even to the stove, will not only grow, but arrive at far greater perfection, in the free ground in the open air during summer, or against a conservatory wall throughout the year. By far the most interesting improvement introduced into floriculture for many years is the conservatory wall, by which is meant a wall, which ought to be flued if possible, with a southern or other warm exposure; against which greenhouse shrubs or trees are trained, and fully exposed to the air during summer; being protected by a projecting coping of boards, or of thatched hurdles, during winter and spring. Against such a wall, with a dry warm border, almost all the Australian trees and shrubs, most of those from Mexico and South America, and many from Nepal, China, Japan, and the Cape of Good Hope, arrive at a degree of vigorous growth, which, under no circumstances whatever, can they attain in pots, or when kept under a glass roof throughout the year. Some finely clothed walls of this description have been, from time to time, referred to in this Magazine; and, as examples, we may remind our readers of that of the Rev. T. Garnier, at Bishop's Stoke, near Southampton; and of that of the London Horticultural Society, in their garden at Chiswick. The superior effect produced on plants by the direct influence of the light, is strikingly evinced by the beautiful and luxuriant growth of those against these walls, when compared with that of the same description of plants under glass; where not only a portion of the light is excluded by the glass, but what passes through this medium is decomposed, and deprived of a large portion of its vivifying influence on the leaves.

One of the effects produced by the great number of flower shows now established throughout the country is, the great demand which they have created for new plants. This has been met in two ways: first, by occasioning large importations of herbaceous flowers and flowering shrubs from the Continent, such as the Dutch anemones, the German asters, the Ghent azaleas, and French roses; and, secondly, by inducing nurserymen and gardeners to raise a great number of hybrids, in order to get something more rare and beautiful than their neighbours. This spirit of emulation, by exciting gardeners to think, has done

more towards improving the science of floriculture, than all the practical experience of years had done before ; so true it is, that great general results are often produced by petty causes working separately, but, at the same time, on a number of different individuals. It is difficult to rouse the minds of persons who have been long accustomed to traverse one beaten track, sufficiently to make them comprehend any principle of universal application : such minds can only be approached by a number of covert ways ; and it is only when they find that these ways, though different in themselves, yet, from being conducted all on the same principle, all lead to the same result, that they begin to comprehend that they may apply the same principle in other, and as yet untried, ways. For example, though the principle of hybridisation by cross fecundation was known even in the time of Bradley, in 1717 (see p. 677.) ; and though, in after-times, it was found to produce the most wonderful effects with regard to apples and pears, &c., yet no one seems to have thought of applying it to produce new and beautiful varieties of tulips till within this year or two ; but, on the contrary, the growers of these flowers had the extraordinary and almost unexampled patience to wait year after year, till certain self-coloured seedling tulips, or breeders, as they were called, from some accidental combination of favourable circumstances of soil or climate, began to vary in their colours, or, as it is technically termed, to break. Another advantage of the spirit of emulation excited by these flower shows is, that it occasions a far greater number of plants to be propagated, for the sake of trying experiments, &c., than would otherwise be thought of ; and this rage for increasing plants, spreading through all the persons connected with gentlemen's gardens and nurseries, induces them to raise themselves a great number of plants, to decorate the gardens, not only of their own cottages, but those of all their friends and acquaintance ; and this leads to the general distribution of fine plants throughout the country, and, of course, adds very greatly to its beauty.

Of the house floricultural plants, by far the most fashionable at present are the *Orchideæ*, of which a number of new species are imported every year ; while others, previously imported, are successively coming into flower, and are figured in almost every number that is published of the botanical periodicals. The different opinions which prevail as to the mode of treatment of these plants, viz. whether they should be treated in a natural manner, that is, kept in a state of heat, moisture, and shade, like that in which they grow in their native forests ; or artificially, that is, by keeping them more in the usual state of stove plants in this country, have been already detailed in this volume (p. 113. and 252.) ; and we only allude to them here, as being also likely to promote the improvement of floriculture, by teaching gardeners to observe, to reason, and to think. On the same account, we

refer to the plan for throwing tropical plants into flower, detailed in p. 19.

The various new plants that have flowered, and been figured, for the first time in England, during the past year (among which are several beautiful hardy annuals, perennials, bulbs, and shrubs), will be found indicated by a star in the Index to the List of Plants, which forms part of the Contents to our present volume.

Horticulture. — The subject which has attracted most attention during the past year in this department is, the coiling system of vine culture, introduced by Mr. Mearns, the merits of which, however, do not appear to be yet determined on by practical men. The subject of managing vines in the open air has been treated on in a masterly manner by Mr. Hoare, whose book is the most valuable addition to pomological literature that has been made for several years. We are not aware of any remarkable acquisitions that have been made to our culinary vegetables. A silver-skinned underground onion has lately been cultivated in the experimental garden at Inverleith; and the quinoa (*Chenopodium Quinoa*), introduced some years ago, but only recently brought into general notice by Mr. Lambert, who has been most successful in its culture, may be mentioned as a spinach plant, and one at the same time valuable for its seeds, which are used as a substitute for millet or rice. It will probably be found useful to the settlers in new countries, as the seeds are ripened within three or four months after the plant is sown, and as they require no husking, or other preparation, previously to their being cooked as food. As far as horticultural productions are concerned, it is to be regretted that the pecuniary circumstances of the London Horticultural Society have obliged them, in a great measure, to give up the culinary vegetable department of their garden. It is not that vegetables could be grown there better, or even as well, as in many market-gardens; for in no one garden can every description of vegetables be grown to the highest degree of perfection; but, the culture and proving of culinary vegetables having been known by horticulturists every where, both at home and abroad, to be carried on in that garden, as well as the culture and proving of fruits, it became a focus to which new productions were sent from every quarter. These new productions being seen by visitors to the garden, and being reported on, from time to time, in the Society's *Transactions*, soon became generally known, and, in consequence, were introduced to the seed shops, and from them into commercial and private gardens. Two modes of growing mushroom, which will appear in the Number for January, 1836, may be worth noticing here. If the mushroom stone (which appears to be a kind of spawn brick, but of a more earthy and

permanent character than those made for propagating the common mushroom) could be manufactured, or procured readily, then every family might grow their own mushrooms in a box, in a cellar, or kitchen, without manure or soil, or any other trouble than that of merely watering the stone; while the other mode is well worth the attention of every one growing culinary vegetables. The mode of compressing aromatic herbs into cakes, and preserving them closely wrapped up in paper till wanted for use, practised by Mr. Lindsay, gardener to His Grace the Duke of Devonshire, at Chiswick (see p. 47.), well deserves imitation; and it might be extended to dried parsley, fennel, celery tops, and many other potherbs. By the use of hot water in some cases, and of steam in others, as the vehicle for conveying bottom heat to a superincumbent bed of stones or gravel, the culture of the pine-apple has been rendered more economical, and much less offensive, from its not requiring the use of dung or tan. The idea of heating a bed of stones was first suggested by us in 1804; and it was carried into execution first at Glenfuir, near Falkirk, and afterwards at Underley Park, near Kendal, the heat being conveyed to the bed of stones by smoke flues. Soon afterwards Mr. Hay greatly improved on the plan, by making steam the medium of conveying the heat; and, subsequently, Mr. Hay's plan has been variously modified, extended, and improved by Messrs. Stothert of Bath; the details of which improvements, illustrated by numerous figures, will be found in our tenth volume, p. 226.

The new fruits which have been proved during the past year, and found worthy of general recommendation, will be found enumerated under the head of Pomological Notices, in our succeeding volume; as those for the year 1834 are in this volume. The same remarks will apply to the lists of new culinary vegetables.

STATISTICS OF GARDENING.

Public Gardens. — As we have devoted an article to this subject which is of some length, we shall confine ourselves here to a brief statement of the creations, improvements, and alterations which have recently taken place, or are actually in progress, relating to gardens of this description.

Botanical and Horticultural Gardens appear to be gradually on the increase. That of Sheffield, noticed Vol. X. p. 276., is nearly completed, and, we are informed, looks remarkably well. The Liverpool Botanic Garden is being removed to a more favourable site, and a greater extent of ground is devoted to it. The Manchester Botanic Garden has undergone great alterations and improvements, under the care of its excellent curator, Mr. Campbell (see p. 488.). The Botanic Garden at Bury St. Edmunds,

has, also, been enlarged; and it is proposed to remove and greatly enlarge the Botanic Garden of Cambridge. The Oxford Botanic Garden has received a new stimulus, in consequence of the appointment of Dr. Daubeney as botanical professor. In the garden of the London Horticultural Society a small natural arrangement was formed last spring by Dr. Lindley, on the principle of his *Nixus Plantarum*; and one has been laid out in the Chelsea Botanic Garden, on the linear succession principle followed by De Candolle. In the Kew Garden a palm-house of considerable dimensions is marked out, and the work commenced. At Bristol a Zoological Garden and an Arboretum are projected; and a public garden is also commenced at Gravesend. In the Edinburgh Botanic Garden additional hot-houses are erecting, and a great accession to the ligneous plants of this garden has been made by Mr. Macnab, jun., in consequence of a tour made by him in America in the autumn of 1834. In Ireland great improvements are taking place in the Glasnevin Garden, under the curatorship of Mr. Niven; and the Belfast Botanic Garden has been completed under the care of Mr. Campbell.

Cemeteries have been laid out in many places, and are projected in others. Indeed, they are so conducive to both the health and convenience of the inhabitants of towns, that we have no doubt they will become universal in a few years.

Private Gardens.—We are not aware of any thing remarkable having occurred, during the past year, in the way of forming or laying out new gardens or residences, or of improving those which already exist, with the exception of the extensive Arboretum commenced by the Duke of Devonshire at Chatsworth, and an immense palm-house, projected for the same princely demesne. The Duke of Bedford is about commencing, or rather completing, an Arboretum at Woburn Abbey, by adding specimens of other trees and shrubs to his already extensive collection of willows. The Earl of Mountnorris has not only added to his collection of foreign trees and shrubs at Arley Hall, but has sent a collector to New Zealand, in the hope of discovering some ligneous plants in the mountainous parts of that country. Next year we hope to record the formation of various arboretums, and other gardening improvements, accounts of which will probably be sent us more generally than heretofore, when it is seen how essential they are to enable us to fill up our proposed yearly Retrospective View. It has been observed to us by others, and we have observed it ourselves, during our occasional tours, that the gardens of cottagers by the road side have wonderfully improved within these few years; and we have before often observed that, in many parts of the country, dahlias, fuchsias, and other new plants are to be seen in them, which were formerly

confined to gentlemen's gardens. This improvement, as we have elsewhere stated, is chiefly owing to the exertions of the horticultural societies, and partly also to the benevolent and patriotic exertions of some gentlemen, who authorise their head gardeners to supply the cottagers on their estates with such useful and ornamental plants as can be spared, and are suitable for cottage gardens. Various gentlemen, also, in different parts of the country, require their head gardeners to keep a nursery of fruit trees and fruit shrubs to be given away to their farmers and cottagers. When we consider how greatly the beauty of the margins of all our roads is increased by this practice, and how much it tends to increase the comfort and happiness of the cottager, we cannot too highly express our admiration of such practices. We only wish they might prevail everywhere, and that every proprietor of land in Great Britain or Ireland would adopt them. A superior description of cottage, and an improved mode of cookery, are the next steps in the amelioration of the condition of the country labourer; and we should like much to see them included in the objects of the provincial horticultural societies.

Commercial Gardening has been considered as rather in a declining state for some years past, owing, in market-gardening, to the lowness of prices, and, in nursery-gardening, to the want of demand. The lowness of the prices of culinary vegetables and fruits being occasioned by the immense supplies of British growth, and also by the influx of some descriptions of fruit from the Continent, must necessarily lead to a fall in the rent of garden ground in Britain; and this, indeed, to a certain extent has already taken place. The nursery business has, within the last twenty years, undergone a material change. Formerly all extensive planters in the country, whether of fruit trees or of forest trees, procured them chiefly from the London or Edinburgh nurseries; whereas now all the forest trees, and the more common of the fruit trees, are procured by planters from nurseries in their immediate neighbourhood; and the demand on the metropolitan nurseries is limited to the less common articles, or to what is new. This, to the public in general, and more especially to country gentlemen, is a very desirable change, since it enables them not only to procure their plants from a nursery where less rent is paid, and, of course, at less expense, having also less to pay for carriage; but, from the plants having been less time out of ground, there is far less risk of losing them from the check given to them by the removal. This change, however, as in the case of all states of transition, has been attended with serious losses to the London nurserymen, more especially to those who have extensive grounds, and who continue to pay high rents for them. To these high rents, and to the very long credit generally taken by country gentlemen, must be attributed,

in a great measure, the high prices hitherto charged for those trees and shrubs which are not generally planted. It is true that this high price is partly, also, occasioned by the little demand that there is for many articles which first-rate nurserymen are still obliged to keep; and this little demand must be attributed partly to the want of taste in country gentlemen for trees and shrubs, and partly to a want of knowledge of them among gardeners. During the past year we certainly think that we have seen symptoms of a change in these matters. Two lists have appeared in the present volume of this Magazine, p. 163. and 567., both furnished by eminent London nurserymen, in which the prices for ready money, or payment at the end of the year, are as low as they can possibly be desired. In consequence of such lists being made generally known, we have no doubt the taste for planting rare trees and shrubs will rapidly increase; and nurserymen will find that, by calculating on small profits and extensive sales, they will be greater gainers than by relying on high prices and select purchasers at indefinite credits. This, indeed, is the spirit of the age, which it is in vain, for any person that would live and thrive, long to resist. In consequence of the stimulus given to the culture of superior varieties of culinary vegetables, and annual and biennial flowers, throughout the country, by the horticultural societies, the demand for seeds has increased, and also that for flowering bulbs, the quantity of which imported annually from Holland has greatly augmented. Since the general peace, British nurserymen have been enabled to extend their connexions abroad, very much to their own advantage, and not less so, we believe, to that of their brethren in other countries. A number of new azaleas, and other American shrubs and trees, and new varieties of fruit trees, have been imported from Belgium; many new roses and orange trees from France; and many flowers, such as Dutch anemones, &c., from Holland, and other countries; while many camellias, and other showy or rare house plants, have been sent in return from Britain to France, Belgium, Holland, and Germany; and even to Italy, Sweden, and Russia. The commerce carried on between British and American seedsmen is greatly on the increase; and there is also a considerable demand both for seeds and plants from Australia. In this way, if the domestic commerce of nurserymen has diminished, their foreign connexions have increased; and, by the extension of a knowledge of the new plants of this country through the botanical periodicals, we have no doubt it will continue to increase rather than diminish. The practice of sending out collectors to foreign countries, by nurserymen, has been on the increase, since the London Horticultural Society, from its crippled means, has been obliged to give up that part of its exertions. From collectors sent out by nurserymen,

more especially by Mr. Low of the Clapton Nursery, many new species of *Orchideæ* have been introduced, besides other plants; and we have no doubt, as we have elsewhere stated, it would answer, in a pecuniary point of view, to send out collectors to the mountainous regions of South America and India, for the sake of collecting the seeds of pines, and other trees and shrubs likely to endure the open air in this country.

The Condition of Gardeners, whether those who are in situations as masters, having the care of the gardens of country gentlemen, or those who work under them as journeymen, may be considered as improved rather than otherwise; because, while no great change has taken place in their yearly or weekly wages, the price of all the necessaries of life has greatly fallen every where. It is acknowledged, however, that there is a great want of situations for head gardeners, owing to various noble and wealthy families having broken up, or greatly reduced, their establishments, which has occasioned some gardeners to enter into other businesses; and a considerable number, both of masters and journeymen, to emigrate to other countries, especially to North America.

RURAL IMPROVEMENT GENERALLY.

Agriculture in Britain may date its first improvement from the introduction of clover and turnips from the Netherlands, and its second from the introduction of the drill system of cultivation. Towards the end of the last century a metropolitan agricultural society was established, and the fashion of forming agricultural societies became general throughout the counties. These societies, including their parent, the Board of Agriculture, for the most part died away with the fall of prices which took place after the general peace; but they have since revived, and several district societies, both in England and Scotland, by their exhibitions, by their premiums, and by the means which they afford to agriculturists of becoming personally acquainted with one another, are doing much good. At the head of these societies in England is the Bath and West of England Society; and in Scotland, the Highland Society. Both these societies preceded the Board of Agriculture, and have survived it; and both, we believe, continue to do much good by their meetings, their exhibitions, their museums, their libraries, and the publication of their transactions.

Connected with these societies has sprung up a new source of agricultural improvement, which promises to have extensive influence, viz. agricultural museums. Something of the kind, applicable to manufactures as well as to agricultural productions, has taken place for several years in Paris, and, we believe, in some other towns on the Continent; and, to a certain extent, at

the cattle shows of the Smithfield Club, and of the Highland Society of Scotland: but it remained for a spirited commercial house, Messrs. Drummond, seedsmen, Stirling, to be the first to form an agricultural museum in Britain. Similar museums have since been established by Messrs. Dickson and Turnbull, seedsmen, Perth; by Mr. Lawson, seedsman, Edinburgh, and others. The establishment of such exhibitions, by individuals, argues an extraordinary degree of public spirit and enthusiasm; and, indeed, it is more than can be expected to arise from any source but that of a public body. They are so exceedingly useful, that it is to be hoped that they will be as generally adopted by the agricultural societies throughout the country as horticultural gardens are by the societies for the promotion of horticulture. We are happy to find that the present enlightened professor of agriculture in the University of Edinburgh, Mr. Low, is forming a museum of models and specimens of productions for the use of his class. It appears to us, that in every college there ought to be, not only a professorship of agriculture, but such a museum as that which is being formed by Professor Low. There is no man likely to be sent to college, whatever may be his pursuits in after life, to whom a knowledge of botany and agriculture would not be extremely useful.

In the science of agriculture, we are not aware of any important improvement that has been made during the last year. The result of various experiments to determine the cause of the failure of the potato crop for two years past has not been altogether satisfactory, though it has shown that the sets may lose their vital principle when taken up before they have attained a certain degree of maturity; and also that, when kept too much exposed, they are liable to have their moisture evaporated from them during the winter. Mr. Niven, in the *Irish Gardener's and Farmer's Magazine*, thinks that the failure of the crop in Ireland may have been owing partly to some change in the electric state of the atmosphere, and partly to the careless manner in which the potato is treated after it has been dug out of the ground till it is replanted; and the experience of Mr. Munro (p. 416.) is in accordance with that of Mr. Niven. The superiority of whole potatoes to sets, when an early crop is desired, has been proved by Mr. Niven in the same paper; and also the superiority of sets to whole potatoes, when the object is a main crop, more especially when the bud, or rose end, as it is called in Ireland, is used. This superiority of sets to whole potatoes has been also proved by the experiments conducted in the Horticultural Society's Garden, and by various others which will be found stated in the *First Additional Supplement* to our *Encyclopædia of Agriculture*, p. 1355. The culture of the *Trifolium incarnatum* has greatly increased in different parts of the country;

and, from the heat and excessive dryness of the summer, it has been found in many cases a valuable substitute for lucern and clover, which have been completely burnt up. To the above-mentioned *Supplement*, indeed, we may refer for all the recent agricultural improvements whether in science or practice.

Rural Architecture is making great progress in every part of the country ; and, we think, we may safely attribute some portion of this progress to the extensive circulation of our *Encyclopædia of Cottage, Farm, and Villa Architecture*. No other architectural work of so comprehensive a character, embracing, as it does, all the interior details of fitting up, finishing, and furnishing of cottages, farm-houses, villas, inns, public-houses, and schools, ever obtained anything like so extensive a sale in this country ; and though this may have been principally owing to its unparalleled cheapness, considering the quantity of engravings it contains, yet so many persons cannot have purchased the work without more or less acting on it. As the cottages of labourers in the country are generally designed and executed by carpenters, masons, or bricklayers, it is a great point gained to improve the taste of such persons ; and, to do this, and also to give the general reader such a knowledge of architecture as may be useful to him in building and furnishing, and agreeable as a matter of taste and criticism, have been the objects of the *Encyclopædia* ; and the same objects are followed up by the *Architectural Magazine*. Every day convinces us of the soundness of our opinion, that the only effectual and permanent mode of improving the taste and style of any art is, to make the great mass of society critics in that art. What has improved political governments in different countries ? Not the governors, but the dissemination of the general principles of government among the masses of society, or among the leaders of these masses. In like manner we arrive at the conclusion, that houses will not generally be constructed in the most commodious and salubrious manner, and in good taste, till a knowledge of what is the most salubrious and the most commodious manner, and in what consists good taste, shall be possessed by those who intend to occupy them ; or, if not by all, at least by a sufficient number to render such qualities in houses fashionable. We wish we could see architectural societies established generally throughout the provinces ; or, rather, societies for promoting the improvement of the public taste in architectural and rural scenery, as suggested by a correspondent. (p. 280.)

Domestic Economy. — We shall have but little to say under this head, if we limit our views to the past year ; but if we take a retrospect of the last ten years, then we should say that the manners and the dress of the mass of society have considerably improved ; at all events, it is impossible to deny that this has

been the case in the neighbourhood of London. We attribute the change to the influence of school education on the rising generation, and the withdrawal by death of many of the worst part of society, thrown loose from the army and navy after the general peace. The comparative poverty, also, of the higher classes, by obliging them to be more economical in their domestic concerns, has diminished, in some degree, the corruption of the class called gentlemen's servants, who, of all persons in the same rank of life, seem to have least sympathy with others either above or below them. The general taste for reading which at present prevails among the rising generation, and which has been chiefly brought about by the Sunday schools and by cheap publications, promises such an amelioration of the great mass or poorer class of society, as will in time equalise it, in all essential particulars, with those who are now considered the higher and middling classes. The greatest defect in the class of which we are now speaking, as it appears to us, lies in the education of the females, which is confined to a little reading and writing, instead of being extended to clothes-making and working of different kinds, and more especially to cookery. In this respect, as will appear by Mrs. Austin's translation of Cousin's work *On the State of Education in Prussia*, the German women generally have greatly the advantage over those of England. The British gardener may satisfy himself on this subject, by questioning any of the German, French, or Dutch gardeners, now working as journeymen in this country. A British gardener, though he is surrounded with the most excellent vegetables which Europe produces, and has liberty, where they are not scarce, to supply his own table from them, yet, unless he has married a woman who has been brought up a cook, and who understands at least a little of French cookery, cannot get one of those savoury stews and compounds which are made by gardeners' wives on the Continent, at a tithe of the expense that is spent here in the fuel and material for dishes far less agreeable and wholesome. It is quite a mistake to suppose French cookery expensive: it is, in fact, the most economical cookery in the whole world, since its leading principles are, to get the greatest possible quantity of nourishment out of a given quantity of food, with the least possible quantity of fuel, and to waste nothing. With a view to the improvement of gardeners in this particular, we contemplate giving a series of papers on the subject of Cookery, and especially on Vegetable Cookery, in our succeeding volume.

The attention which has of late been paid by the legislature to the subject of national education induces us to hope that, at no distant period, this important and all-powerful source of domestic improvement will be established on sound and permanent principles. The first step to the establishment of national schools

all over the country is, the formation of normal schools for the education of schoolmasters; and for this government has already voted the means. Dr. Reid, in Edinburgh, has lately been giving a lecture, the main object of which was, to prove that the most beneficial results would spring from the "introduction of physical science as an early branch of general education, with illustrations of the plan proposed for instituting a series of illustrations in the theory and practice of chemistry in all schools and academies, including those departments more especially which are adapted to awaken the mind of the junior pupil to the nature of the material world, and to a more precise knowledge of those chemical phenomena which are daily forced upon his attention." As a proof of what may be effected in this way among young females, we may refer to a report on the Ladies' Day School, of Stuart Street, Edinburgh, given in the *Scotsman* of Nov. 14. 1835, and quoted as a note to the Preface of the Eighth Volume of our *Magazine of Natural History*.

For the *Improvement of Roads* some legislative measures have passed; but there is still wanting one to prevent new roads which are being made, or existing roads which are being altered or improved, from having a greater slope than some fixed standard, say 1 in 36. Till such a law is passed, and carried into execution throughout the country, there must of necessity be an aristocracy among travellers; for, on roads having hills steeper than the slope we have mentioned (viz. 1 in 36), the traveller with one horse can never come into competition with him who travels with two: not that, under any circumstances, as much can be done by one horse as by two horses on the same road; but that, on a road of the slope of 1 in 36, one horse will draw or carry half of what two will; while, on roads of a greater slope, it is known from experience that this is not the case: and the fact may be accounted for from the friction of the wheels on the road being equal, and the weights unequal. The man, therefore, who travels in a two-wheeled carriage with two horses, as a commercial traveller, or for pleasure, has an undue advantage over him who can only travel with one horse. We say an undue advantage, because, though it is just that he should benefit from the additional capital employed in the form of the second horse, it is not so that he should profit by the inattention of the legislature in neglecting the roads; a neglect which operates on the poor man, like a tax on poverty.

The Railroads that are going on or projected, amounting in number to upwards of thirty, argue an extraordinary spirit of improvement; and the mind is almost lost in contemplating the effect which they, when executed, will soon have on every part of this country, and, by imitation, on every other.

The Improvement of Furniture, Domestic Utensils, and Clothing

will probably, at no distant period, receive a great impulse, in consequence of the Select Committee on Arts and Manufactures formed during the last session of parliament. The published *Minutes of Evidence* taken before this committee appear to us to be of extreme importance: they will probably lead to the establishment of schools of design in all our manufacturing towns, and, in consequence, to a great improvement in the forms of domestic furniture of every description; and an equal improvement in the painted, printed, or engraved designs on every class of manufactured objects. (See an analysis of this *Report*, in *Arch. Mag.*, vol. iii.)

GARDENING AND RURAL IMPROVEMENT IN FOREIGN COUNTRIES.

In France, notwithstanding the political cloud which appears to hang over the country, the taste for gardening seems to be on the increase. The Horticultural Society of Paris, judging from their exhibition in the Orangerie of the Tuilleries in June last (at which the king was present, and at which he acknowledged himself the patron of the Society), and also from the *Annales d'Horticulture*, appears to be in a thriving state. The number and extent of the nurseries round Paris, and in different parts of France, have increased within these few years; and no establishment of this kind more so than that of M. Soulange-Bodin, of which some notice will be found in a succeeding page. The intercourse between the seedsmen of France and Britain has much increased, especially in what relates to agricultural seeds; and, also, the intercourse of the Parisian seedsmen (especially that of M. Vilmorin and Co., who are the first seedsmen on the Continent, and, indeed, in Europe,) with America.

Holland has long been celebrated for its seed merchants and its commerce in bulbous roots; and in both products the country retains its celebrity. Its exports of nursery articles, and especially of fruit trees, compared with what they used to be fifty or sixty years ago, have diminished: but its export of vegetables and fruits has increased; and very much so its export of bulbs.

Belgium, which used to be only second to Holland in botany and horticulture, may now be considered as ranking higher in the scale than the former country. The present King of the Belgians being a botanist, and much attached to planting and gardening, has introduced various improvements in the gardens and grounds of his palace of Lacken near Brussels. These improvements have been designed by Mr. M'Intosh, His Majesty's gardener at Claremont, and consist of extensive ranges of hot-houses and pits, and collections both of house and hardy plants. The botanical and horticultural garden at Brussels is said to be rather on the decline, for want of funds; but the botanic garden at Ghent is undergoing various important improvements, under

the direction of a new curator. The various collectors of plants in Belgium almost all sell or exchange their productions among themselves or with foreigners; a very laudable practice, in our opinion, since it spreads a taste for plants, and is also the means of disseminating many fine species among those who, probably, would not otherwise have either become imbued with the one, or possessed of the other. The Ghent gardeners are always happy to make exchanges with the nurserymen of this country; some of whom, and more especially Mr. Knight of the Exotic Nursery, and Mr. Low of Clapton, make annual journeys through the country, and bring back various novelties. An excellent account of the present state of botany, gardening, and rural economy generally, in Belgium, has been given in the present volume (p. 217. and 273.), by Mr. Maddison.

Germany. — Throughout this extensive country there may be said to be a general movement in favour of gardening; but we have given such a copious account of what has recently been done in our *Encyclopædia of Gardening*, that we can add but little here. The late Emperor of Austria was not only a great lover of gardening as an amateur, but actually spent a portion of his time, almost every fine day, in a gardening dress, digging, hoeing, and pruning, planting and transplanting, potting and shifting, and watering and syringing, like any garden labourer. The present emperor is said to possess the same taste, though not in such a decided manner. The garden of the university, at Vienna, was greatly enlarged some years ago; and its collections are annually increased, under the assiduous directorship of Baron Jacquin. All the best fruits of Britain have been introduced into the imperial gardens about Vienna by M. Karl Rauch, who spent several years in England, chiefly in the garden of the Horticultural Society, and at Kew; so that very few German gardeners knew better what the gardens about London possessed, that was not to be found in the gardens of Vienna. The Hungarian magnates are adding to their collections; and there are now several gardeners and Scotch bailiffs settled in different parts of Hungary. The most splendid and prosperous botanic garden in Germany is that of Berlin, a plan and description of which is given in our *Encyclopædia*; and a recent account of its collection of trees and shrubs, by its director, M. Otto, will be found in a preceding page. (p. 541.) M. Otto, jun., after having been some time at Kew, and in some of the London nurseries, put himself under the tuition of Mr. M'Nab of the Edinburgh Botanic Garden; subsequently he went to the Jardin des Plantes, and to some of the Parisian nurseries; and he is now travelling in different parts of France, Belgium, Holland, Germany, and Italy, previously to his return home. It is only by travelling extensively in this manner that a gardener

can know the precise state of his own garden, and become enabled to supply its deficiencies. One of the most valuable garden practices among the Germans is, their rule of appointing no gardener to the care of a first-rate garden, who has not visited all the first-rate gardens of Europe. It is much to be regretted that the same practice does not prevail in this country. The botanic garden at Göttingen contains an excellent collection, which has lately been considerably increased; its director, M. Fischer, who was lately for some months in this country, having purchased liberally, and made extensive exchanges. Horticultural exhibitions are held at Vienna, Berlin, Munich, and in various other towns; and one, as we have lately seen (p. 543.), has been commenced at Frankfort, and is in a most prosperous condition. The gardens of Munich have long been celebrated; and these, as we find from communications from their director, M. Sckell, are receiving annual additions both of plants and architectural ornaments. The neighbourhood of Hamburgh was celebrated for the villas and gardens of its merchants previously to the year 1813, when most of these were destroyed by the French. Since the peace, and more especially within these few years, they have been rebuilt in a higher taste; some of them under the care, or from the designs, of London architects; and their grounds have been laid out and planted by the Messrs. Booth of the Flötbeck Nurseries, who possess one of the best collections of trees and shrubs in Germany.

In Denmark horticulture is making advances, as will appear by the various communications sent us, from time to time, by our friend, one of the royal gardeners there, M. Petersen, who, from having been some years in this country, is quite aware of what it is desirable and practicable for him to introduce. A valuable article on the trees and shrubs of Denmark, by Professor Schouw, will be found in our succeeding volume. There is a horticultural society in Copenhagen, which has regular exhibitions, like those of England.

Sweden has a horticultural society, and, we are informed by Dr. Agardh, is making considerable advances in horticulture. In addition to what this celebrated botanist supplied us with for the last edition of our *Encyclopædia of Gardening*, a valuable article on the foreign and indigenous trees and shrubs of Sweden will be found in a future Number.

In Russia, we are informed that the excellent collection at Petersburg, under the care of Dr. Fischer, is still kept up and increased; and a proof of this is afforded by the packets of seeds annually sent by the doctor to the Horticultural Society's garden, and to other gardens and botanical establishments in Europe. The Crimea has long been celebrated for its national garden at Odessa, of which a history and description by M. Des-

cemet will be given in our succeeding volume. The Russian nobles in the neighbourhood of Moscow are quite alive to horticultural improvement, some notices of which have been furnished to us by M. Fintelmann, one of the imperial gardeners, who has recently been in Britain for the purpose of inspecting our gardens, and increasing the collection under his care. He made purchases in London, Edinburgh, and Dublin; and we were surprised to learn from him the very considerable number of trees and shrubs which will stand the open air at Moscow. A list of these will be found in our *Arboretum Britannicum*.

To Poland, as connected with Russia, we turn with regret, nay, horror.* A Polish nobleman, now in London, informs us that the Botanic Garden of Warsaw was almost destroyed during the siege of the city, and that the garden at Cracow is without funds. Agriculture, though at a low ebb, is expected to recover; but, in consequence of the want of confidence, it will be long before much capital will be risked in improving the ground. In Poland and Russia the government is but little acted upon either by the public opinion of the governed, or by that of other countries; but, as this cannot always be the case, and as the ratio of improvement is of unknown rapidity when it is once commenced, the kingdom of Poland may be reestablished, and the inhabitants of Russia sooner united to the European family, than the deplorable state of the former, and the barbarous state of the latter, would lead one to imagine.

Switzerland. — In this delightful country botany and gardening were early cultivated; and they have lately made great advances, as will appear by a communication on the subject by M. Alphonse DeCandolle in our succeeding volume.

Most of the different States of Italy have botanic gardens, but we know little respecting any of them. Very great improvements have been made in the viceregal gardens of Monza, as appears by the interesting communication of Sr. G. Manetti. (p. 639.) The royal gardens at Caserta are still kept up, and contain some splendid specimens, some account of which is given in a letter from our correspondent at Naples. (p. 151.) There are also some gardens occupied by Englishmen in the neighbourhood of Naples, as, for example, that belonging to the Hon. Keppel Craven, in which Australian trees have attained an extraordinary size.

In Spain, we learn from the very interesting *Sketches* of Capt. S. E. Cook, that public gardens and promenades are forming round many of the large towns; that government is laying out roads in almost every part of the country; and that, on the

*. See the leading article of the *Morning Chronicle* of Nov. 14. 1835; and also of Nov. 20.

whole, the interior improvement of Spain is going on much more rapidly than we in Britain could have conceived, from the prejudiced views of some travellers, and from the statements in the newspapers. Capt. Cook has given an account of the forest vegetation in Spain, which is of extraordinary interest; and he has introduced into this country the true *Quercus austràlis* and *Q. hispànica*, the true *Pinus hispànica*, and the true *P. uncinàta*. He has also brought a beautiful variety of *Sambucus racemosa* from the Pyrenees. Copious extracts from Capt. Cook's work, made with his permission, will be found in our succeeding volume; and some, relating to the architecture of Spain, in the *Architectural Magazine*.

Of the State of Gardening in Portugal, Sardinia, Greece, and other Portions of Europe, we have nothing particular to record. At Constantinople improvement has commenced with the government; and, as there are scarcely any vested interests to oppose it, when once a general system of education is established, it will, in all probability, proceed with great rapidity; and the Turks, in another generation, will be received into the bosom of civilised Europe, and will complete that system of mutual good understanding and harmony that will render all future wars in this quarter of the world unnecessary. It will then become a duty to civilise the barbarians of Africa and Asia, to prevent them from overrunning us, as the Goths did the Romans of old.

In Africa there is a margin of civilisation along the southern shore of the Mediterranean Sea; and, since the French have been in possession of Algiers, they have introduced gardening and agriculture there to some extent. Campbell the poet informs us, in his *Letters from the South*, published in the *New Monthly Magazine* (vol. xlv. p. 278.), that there is a garden of experiment and naturalisation of eighty acres in extent, which contains 25,000 trees, bushes, and plants, under the care of a director and twenty men. These plants include the sugar cane, cotton tree and bush, and, no doubt, all those species and varieties of useful plants which the botanists and horticulturists of Paris have supposed likely to suit the climate: as, some years ago, when Algiers was about to be colonised, every enquiry was sent forth about Paris for suggestions as to the seeds and plants desirable for, or thought likely to succeed in, the Algerine climate. The operation of colonisation, in short, was set about with that mixture of science and enthusiasm which always distinguishes the French; and we sincerely hope the result will answer their expectations. Some extracts from Mr. Campbell's *Letters*, respecting the state of gardening and agriculture at Algiers, will be found in our succeeding volume. The pacha of Egypt is introducing into that country every description of

European improvement of which it is susceptible, and civilisation is advancing there with rapid strides. We refer to Mr. St. John's *Egypt*, and to our *Encyclopædia*, for details, and to a paper by Mr. Trail, the paçha's English gardener, in our succeeding volume. The most valuable agricultural product of Egypt, at the present time, is cotton; and, while this material from the East Indies is worth, at Manchester, about $7\frac{1}{2}d.$ per lb., and that from New Orleans about $11d.$, the Egyptian cotton is worth $13d.$ With such a source of wealth, it is not to be wondered at that the paçha should be powerful and prosperous.

In Asia there is probably an immense number of plants, natives of the elevated regions and high latitudes, which would endure the open air in Britain; and it is highly satisfactory, and greatly to the honour of the East India Company, that the indigenous botany of their dominions, and of the adjoining countries, has been, and continues to be, explored, at their expense, by eminent botanists. Much has been done by Dr. Wallich for the botany of India, and also for the botany and horticulture of Europe. Dr. Wallich, who had been for above a year on a visit to this country, has recently returned to India; and, as will appear from his communications in this volume, has added various new plants from England to the Calcutta Garden. He has also furnished us with an account (p. 429.) of the discovery of the tea plant in Assam, which will probably lead to important consequences in various ways. One of the first which we anticipate is, the discovery of other ligneous plants in Assam, equally hardy with the tea shrub, or more so, by which the British arboretum will be more and more enriched. There is a horticultural and botanical garden at Saharunpore, under the care of Mr. Royle, which has been of great use in introducing to that country the useful plants both of Hindostan and of Europe; and to that garden, and to the exertions of Mr. Royle and of other botanists who have preceded him, the British garden is indebted for many interesting Nepal plants, among which are some of our finest hardy trees and shrubs. Great expectations may reasonably be entertained from this part of Asia, the botanical riches of which, and its susceptibility of receiving great accessions from the plants of other countries, are set forth in a scientific and masterly manner in Royle's *Illustrations of the Botany, &c., of the Himalayan Mountains*. China, though it has hitherto been a sealed country to Europeans, will probably not long continue to be so; and whenever European botanists are allowed to explore the interior of the country, a rich harvest will be reaped both of hardy and of house plants. The rising generation may even live to see a railroad conducted from Europe to the heart of China. In the meantime, the Bri-

tish merchants settled in China introduce occasionally some of the finer plants from England into the gardens of the principal sea ports, as appears by the communication of Mr. Reeves. (p. 437.) Mr. Reeves has introduced into England some of our finest Chinese camellias, azaleas, and chrysanthemums, besides various other species.

In the United States of North America gardening, especially horticulture and floriculture, is making rapid progress. There are several horticultural societies, and there are two gardener's magazines, besides several journals devoted to agriculture and gardening. In the magazines there are several gardens described, belonging to wealthy merchants in the neighbourhood of Philadelphia; and these appear not only to contain good collections, but to be kept in high order. The gardening commerce between this country and the United States has lately increased in an extraordinary degree, and, in all probability, will continue to do so; because, for many years, trees will be raised, whether from seeds, cuttings, layers, or grafts, cheaper in England than in America. This will be the case, not only on account of the greater cheapness of labour in this country than in America, but from the greater moisture of our climate. As soon as a port is established on the west coast of Ireland, our brethren in that quarter will supply the western world with trees, which will arrive by the steam-boats at New York, in not much longer time than packages from the Aberdeen nurserymen used to be on the sea between that port and London. The Americans, on their part, will probably long continue to supply Europe with the seeds of their native trees; for many of these, which will grow, and attain a considerable size, in the British Islands, and in similar climates on the Continent, will probably never ripen their seeds in any quantity in Europe, because our summers are not sufficiently warm and light to admit of their thoroughly ripening their wood. The attention of the Americans has not yet been much directed to public gardens; but it will be so when their towns become more wealthy; and we anticipate, among the citizens of the western world, municipal gardens, parks, pleasure-grounds, and hot-houses, the common property of the towns, which will rival those of the European aristocracy. Agriculture and rural architecture are also making progress in the United States, though that progress must necessarily be comparatively slow, till the population is either greatly increased, or comparatively concentrated.

Many hundreds of emigrants, chiefly agriculturists, have gone to the United States within the last three or four years; and also a good many gardeners, and some British architects. The state of architecture in New York and its neighbourhood will be found given, from personal observation, by Mr. Wilds and Mr.

Ross, British architects, in the first and second volumes of the *Architectural Magazine*. In the progress of railroads and canals America surpasses every other country. In this way the superfluous income of the government is employed, and the results will last for ever, and for ever prove of use; whereas in old corrupt governments, like most of those of Europe, the superfluous income is too often spent in such a manner as, in a few years afterwards, leaves not a trace behind.

In British America gardening is also making rapid progress, stimulated by a horticultural society established at Toronto, and by another at Montreal. Many British farmers of small capital have lately purchased lands in Canada, among whom are some gardeners. There is a good nursery at Montreal, the property of our esteemed friend and correspondent, Mr. Cleghorn.

In the British West India Islands gardening seems to be prosperous rather than otherwise, though the Jamaica Botanic Garden is given up, and that of St. Vincent is in a state of neglect. In Jamaica, however, a horticultural society has been established, chiefly through the influence of Dr. Bancroft, its president; and it is most gratifying to observe that this society directs its attention in a special manner to the gardens of the slaves and free labourers. The labouring population of the West India Islands may be said to be naturally gardeners; for they are all brought up to handle the hoe and the spade, and all the married people have gardens of their own. Now that the inhabitants of these islands are emancipated, or about to be so, from a state of slavery, they will, through the influence of education, and the necessity of thinking and acting for themselves, become quite a new people, and prove, we trust, to the world, that the black man and the white are essentially the same animal; and that, civilisation and other circumstances being equal, as much of intellect, of genius, and of moral worth, may be expected from the one race as the other. Slavery is a state incidental to an infant state of society, under which circumstances it may actually become a blessing to the slaves, and, by reclaiming them from an utterly barbarous state, pave the way for the civilisation of their descendants; but so powerful is the selfish principle in slaveholders, that in no age or country have they ever stopped at the point which humanity would dictate. Great Britain has at last set an example in this respect which is worthy of being followed by all civilised people; and we do hope it will speedily be so by the United States. There is, perhaps, no person who has a greater regard for America than we have; but the sentiments which we have heard some Americans express on the subject of their slave population have filled our mind with horror, and, indeed, have diminished in a considerable degree the ardent desire which we once had to visit the United States.

In South America gardening seems to be comparatively stationary, but not so the botanists who are travelling or residing in that country. The latter have sent home many fine plants, several of which are sufficiently hardy to stand the open air with us. It is deeply to be regretted that some exertions are not made to procure the cones of the different species of pine which Dr. Coulter and others have discovered in South America and Mexico, in situations which leave little doubt of their being sufficiently hardy to grow in the open air in this country. There is a public garden at Rio Janeiro, in which the tea shrub, and some other Chinese and Indian plants, have been tried; and some years ago the botanic garden established at Buenos Ayres was still in existence: but we have heard nothing of either of these gardens lately; or of that of Caraccas, so frequently referred to by our indefatigable correspondent Dr. Hamilton. The warmer parts of South America are rich in Orchideæ; and various new species of these plants have lately been collected and sent to England, during two journeys made in the country, by Mr. Henchman, botanical collector for Mr. Low of the Clapton Nursery. Mr. Henchman's communications respecting South America will be found in various parts of the present volume, and also in that for the next year; and the papers of our correspondent Mr. Mathews, on the same subject, are partly in this Magazine, and partly in the *Magazine of Natural History*. Our last letter from Mr. Mathews, which will appear in the *Magazine of Natural History* for January, 1836, left him at Lamas, in the interior of Peru, a country the hills and mountains of which are covered with forests which have never been penetrated by Europeans. Mr. Mathews, at the time he wrote, had not advanced farther than a few yards from the margin of the river up which he ascended with a canoe to the town of Lamas; but, even in that limited range, he had discovered several new animals and plants. Dr. Lindley, in the *Botanical Register* for the present year, speaking of the collections of dried plants sent home by Mr. Mathews, says that he found among them a larger number of very beautiful species than he ever had the good fortune to meet with in any other collection that he had examined of similar extent. (See p. 523.) We could wish that Mr. Mathews, who is an independent collector, were so supported by the nurserymen, or by the wealthy gardening amateurs, of this country, as to enable him to send home living plants and seeds.

Australia. — This immense country, embracing as it does a great variety of climate, is capable of growing the vegetables and fruits of every other country, more especially those of Southern Europe. In the colony founded on the north coast, at Melville Island, in 1824, in lat. 11°, the pine-apple, the mango, the cocoa nut, the melon, the lemon, and all the fruits of the East

and West Indies, as far as they were tried, arrived at perfection. This colony has since been abandoned; but the experiment shows what may be expected when this part of Australia is subjected to cultivation. The settlements in the neighbourhood of Port Jackson are in a prosperous state, and every year are acquiring greater comforts for themselves by the increasing cultivation of the soil, and are proving a greater benefit to the parent country, by their demand for its manufactures. By far the most valuable product both of the country in the neighbourhood of Port Jackson, and in Van Diemen's Land, at present, is wool; and that article might be supplied by Australia, to the rest of the world, to an almost unlimited extent. The botanic garden at Sydney is now under the care of Mr. Richard Cunningham, late of Kew; and we expect to hear of its being considerably improved, though Mr. Cunningham is at present absent on a grand expedition into the unknown interior. Great exertions are making to introduce vineyards in the neighbourhood of Sydney; and the Australian public are deeply indebted to Mr. Busby for having twice visited the vine countries of Europe, and for having introduced into the Sydney Botanic Garden, for the benefit of the colony, all the best European varieties of the grape. Mr. Busby's book on the subject, which we have reviewed at p. 90., will be read with extreme interest. We have learned, from various sources recorded in this Magazine, that several vineyards have been established in Australia, and some good wine produced. The olive has also been tried, and there can be little doubt that it will succeed perfectly. So anxious are some proprietors in the district of Port Jackson to try every means of improvement, that we know a recent instance in which an order was sent from Sydney, to a London nurseryman, to send out one of every description of cultivated tree, shrub, and plant, that would stand the open air in the neighbourhood of London, as far as could be purchased for the sum of 200*l*. A number of villas have recently been formed in the neighbourhood of Sydney, a plan of one of which, showing the arrangement of a gentleman's house suitable for that climate, and also the manner in which the grounds are laid out, will be found in the second volume of the *Architectural Magazine*.

There is a botanic garden on the Swan River, under the care of Mr. Drummond, of which we have lately heard but little.

The most interesting part of Australia to us is Van Diemen's Land, because there the climate resembles that of the mildest part of England, but with a drier atmosphere. It is such a climate as would add ten years to the life of any healthy resident in the neighbourhood of London, and ten years, too, of cheerful enjoyment instead of morbid existence. Van Diemen's Land is also more interesting than Sydney, both to the botanist and the

geologist, not only in itself, but on account of the greater number of its productions which will stand the open air in this country, or, at all events, which will stand against a conservatory wall, or with very little protection. One of the most interesting articles, in a gardening and botanical point of view, that ever was written on this colony, will be found in the present volume, p. 338., by Mr. Thomas Backhouse of York. Another communication, by the same writer (p. 570.), gives the dimensions of some of the full-grown trees, which are indeed most extraordinary. There is a government garden at Hobart Town, under the care of our correspondent Mr. Davidson; and here, as in the neighbourhood of Sydney, the citizens are beginning to build villas, and to lay out pleasure-grounds around them in the English manner. The latest accounts which we have had from this quarter relate to the European honey bee. The native bee is without a sting, and is not much larger than a common house-fly: it produces abundance of honey and wax, but has not yet been subjected to cultivation; and, from its small size, and its habit of building on very high trees, probably never will be so. The European bee has been more than once introduced into Sydney, but without success; the swarms having always left the hives for the woods. A hive was carried to Van Diemen's Land, in the autumn of the year 1830, by Dr. T. B. Wilson*, at the suggestion of his friend Mr. Robert Gunter of Earl's Court, and brought from London in a wire case. It arrived in safety, and the bees swarmed several times the first year; and in the *True Colonist* (a Hobart Town newspaper) of Feb. 14. 1835, now before us, it is stated that a hive, descended from Dr. Wilson's, belonging to a gentleman in the neighbourhood of Hobart Town, had already swarmed eighteen times! Some curious details on this subject will be found in our succeeding volume. The inhabitants of Hobart Town and its neighbourhood, in testimony of their gratitude to Dr. Wilson for the invaluable service he had rendered them, presented him with a silver snuff-box; on which occasion the doctor announced his intention of bringing out, in his next voyage, the salmon and trout, for which the rivers in Van Diemen's Land are considered to be admirably adapted. These are the deeds which should, and which will, commemorate the name of a man to the latest posterity.

* Dr. Wilson is the author of the following very interesting work, published in November 1835:—*Narrative of a Voyage round the World; comprehending an Account of the Wreck of the Ship "Governor Ready," in Torres Straits; a Description of the British Settlements on the Coasts of New Holland, more particularly Raffles Bay, Melville Island, Swan River, and King George's Sound; also the Manners and Customs of the Aboriginal Tribes: with an Appendix, containing Remarks on Transportation, the Treatment of Convicts during the Voyage, and Advice to Persons intending to emigrate to the Australian Colonies.* London, 1835. 8vo, 349 pages.

ART. II. *Historical Notes on Ornamental Gardening in Lombardy, particularly as relates to the Introduction of Foreign Trees and Shrubs; with an Account of the present State of the principal Foreign Trees in the Garden of Monza, near Milan.* By Sr. GIUSEPPE MANNETTI, Director and Lecturer on Botany, &c., of that Garden.

THE first introduction of foreign trees and shrubs into Lombardy took place about the year 1770, when a taste for ornamental gardening, in the natural style, first began to prevail. The first of these English gardens, as they were called in Lombardy, were those laid out by the brothers Pecinardi, near Cremona, of which a description and a poem have been printed, both of which I will send you. The plan of these gardens being in imitation of nature, it became necessary to plant them with trees and shrubs that were varied in their foliage, and in the colour of their flowers, to ornament them, and this led to the introduction of foreign trees. The brothers Zappa, from whom Scopoli named the *Zappània*, had then a garden at Sesto St. Giovanni, half way between Monza and Milan. They were Dutch merchants, and introduced many hardy and tender plants from Holland, among which are the following: — *Aucuba* japónica, *Azàlea* glàuca, *A. glàbra*, *Chionánthus* virgínica, *Coriària* myrtifòlia, and *Cratægus* lùcida; *Dàis* urticifòlia, *Wistària* frutèscens, *Lagerstroèmia* indica, *Laúrus Sássafras*, *Magnòlia* grandiflòra, *Mèlia* *Azedarách*, *M. sempervirens*, *Quércus* *Ægilops*, *Sterculia* platanifòlia, *Viburnum* cassinòides, *Cephalánthus* occidentàlis, *Dírca* palústris, *Gymnócladus* canadénsis, *Paliurus* austràlis, *Spártium* júnceum, and *Cátalpa* *syringæfòlia*. Unfortunately the collection was lost, after the death of the proprietors, by their successors, who had no taste for Flora. About that time the Marquis of Casoni had an ornamental garden formed at Derio (a town about ten miles from Milan, and three from Monza, in Brianza), in which he had many fine exotic trees, which are still remaining; such as the *Pinus* Stròbus, *Magnòlia* grandiflòra, *Acàcia* *Julibríssin*, *Xanthóxyllum* fraxíneum, *Gymnócladus* canadénsis, *Fàgus* sylvática, *F. atropurpùrea*, &c. The Marquis Ciculini of Como, and one Agnesi of Milan, also introduced foreign plants, but their collections are no longer in existence.

In 1785 Count Lewis Castiglioni undertook a voyage to North America, and on his return brought a great many seeds, which he sowed at Mozzate, about fifteen miles from Milan, and afterwards distributed over all Italy. These were, the seeds of *Acer* rùbrum, *sacchàrinum*, *pennsylvànicum*, and *Negúndo*; *Æsculus* Pàvia, *Andrómeda* arbòrea, *Asimina* trílòba, *Aràlia* spinòsa, *Bétula* lénta and nìgra, *Cátalpa* *syringæfòlia*, *Cassìne* parágua, *Céltis* occidentàlis, *Cephalánthus* occidentàlis, *Cércis* canadénsis,

Chionánthus virgínica, *Córnus flórida*, *Cupréssus thyòides*, *Taxòdium distichum*, *Diospýros virginiana*, *Castánea pùmila*; *Fráxinus americana*, *nigra*, *juglandifolia*, *pubescens*, *sambucifolia*; *Gledítschia triacánthos*, *Gordónia Lasiánthus*, *Gymnócladus canadénsis*, *Halèsia tetráptera*, *Hamamèlis virgínica*, *Càrya álba*; *Jùglans Péckan*, *cinèrea*; *Kálmia latifolia*; *Laúrus Borbònia*, *Benzòin*, *Sássafras*; *Liquidámbar styracíflua*, *peregrinum* [? *imberbe*]; *Liriodéndron Tulipífera*, *Symphòria glomeràta*; *Magnòlia grandiflora*, *glaúca*, *acuminàta*, *tripétala*; *Crataëgus coccínea*, *Crús-gállì*, *lúcida*; *Cotoneáster tomentosa*, and *Amelánychier Botryàpium*: *Mórus rùbra*, *Myrìca cerífera*; *Nýssa aquática*, *sylvática*; *Pínus Stròbus*, *Tæ̀da*, *echinàta*; *Abies balsamífera*, *canadénsis*; *Làrix rùbra* and *álba*; *Pópulus canadénsis*, *heterophýlla*; *Cérasus Pàdus americana*, *virginiana*, *canadénsis*, *pùmila*; *Quércus Phéllòs*, *Prínus*, *nigra*, *aquática*, *pùmila*, *rùbra*, *álba*, *palústris*: *Rhús glàbra*, *typhina*; *Robínia Pseùd-Acàcia*, *hispida*; *Spiræa tomentosa*, *hypericifolia*, *opulifolia*; *Staphylèa trifolia*, *Stuártia virgínica*, *Thùja occidentális*; *Ptèlea americana*, *caroliniàna*; *Ulmus americana*, and *Xanthóxyllum fraxíneum*.

The laying out of the park at Monza gave a new impetus to the love of ornamental gardening; and the rich showed a desire to have their gardens ornamented with trees that were not natives of our soil.

The governor of Lombardy at that time, seeing that there was a great want of ligneous plants in the country, formed, in 1808, a kind of institution, resembling that at the Luxemburg, for diffusing the best varieties of fruits, and of foreign and indigenous species of trees that might be useful in the arts.

The first journey made to Paris, in 1811, by the late M. Villaresi, director of these gardens, was of great use to our arboretum; but, unfortunately, at that time botanical geography was not well known; and though a great number of plants were brought home, they were planted from ignorance in soil that did not suit them. The magnolia, for instance, was planted in a rich but not marshy or moist soil, by which means it grew but slowly, drooped, and at last died. The art of gardening being practised, in Lombardy, chiefly by unskilful gardeners, many of whom, perhaps, could scarcely read, it did not make much progress; and I am sorry to say that their errors were generally promulgated until a plan for educating young gardeners was thought of by the viceroy, who, aware of their general ignorance, instituted a school for twelve gardening pupils, and appointed me to give instruction to them in the elements of physic, botany, meteorology, horticulture, chemistry as applied to horticulture, geometry, drawing plans, and arithmetic.

It was not till 1814 that an establishment was formed at Milan,

for procuring foreign plants, since which time many that are both new and rare have been introduced.

We are indebted to our illustrious viceroy, who cultivates the sciences, and particularly botany, for the introduction of many plants. Every year we obtain some that are new; and he prefers those that are useful both for domestic purposes and the arts. Now the taste for ornamental gardening is advancing all over Lombardy, and all the rich proprietors appear to have a wish to ornament their gardens with foreign plants.

Only the male of the *Salisbùria adiantifòlia* has flowered here; the female has not produced any flowers. The plant was introduced in 1823, by Count Vitaliano Borromeo, one of our most illustrious lovers of Flora.

In the garden at Monza, the *Magnòlia conspícua* flowers abundantly every year, and this year it produced plenty of seed. It is propagated by seed, layers, and inarching. When this plant is in flower it might be called the snow tree. *M. glaúca* flowers every year, but has never produced seeds: it is propagated by layers and inarching. *M. obovàta* flowers abundantly, and produces seeds. *M. Kobus* and *Soulangeàna* are grafted on *M. obovàta*.

In the month of November the plants of *Magnòlia grandiflòra* are covered with straw caps, not from any fear that the cold would injure them, because they supported it very well in 1829 and 1830, when the thermometer was at 12° Reaumur, for twelve nights; but lest the weight of the snow should break their branches, as it sometimes does. In spring many of them die, and even those of a considerable size, both in the royal gardens, and elsewhere, which is attributed to the droughts which often occur here, from the beginning of autumn to winter. Our *Magnòlia grandiflòra* that we have here, which is sixty years old, and 36 ft. high, is completely exposed to the sun: but, if planted facing the north, it would have grown more vigorously, and its leaves would have been of a deep green; whereas, from its being so much exposed to the sun, although it has not languished, its leaves have always been of a pale green. This tree flowers freely, and produces a great quantity of seed. There are more than 230 plants of *M. grandiflòra* in the open air in this garden.

M. g. præcox flowers abundantly from the beginning of May till August, and sometimes till September: it is esteemed more than any of the other magnolias by the horticulturists of Lombardy. *M. macrophýlla* flowered last year for the first time, but did not produce seed. In the winter of 1829–30 it nearly died to the ground. It grew in the garden at the Villa Eravesi, at Derio. The tree at Monza has been eight years planted, and is 10 ft. high. *M. tripétala* flowers freely every year, and produces plenty of seed. *Asimina tríloba* bears abundance of fruit every

year, which ripens perfectly. It is propagated by seed and dry suckers. *Liriodéndron Tulipífera* has attained the height of 70 ft. in twenty-nine years; but it only grows to so great a height in dry situations. It flowers abundantly every year, and produces plenty of seed. We have, besides, two varieties, *L. T. obtusiloba* and *L. T. flava*.

Tília americana and *T. argentea* were planted by the late M. Villaresi, in 1826, in the public gardens, south of this royal palace, where they still remain, and are now about the height of 40 ft., and the circumference 46 in., their branches covering a space of 32 ft.

We have thirteen species of *Acer*, including *A. barbatum*. *Mèlia Azedarach* does not thrive in our gardens unless well protected; but there is a tree in the garden of Count Mellerio, in Brianza, five miles from Monza, which has been planted twenty-six years, is 40 ft. high, and produces abundance of seed every year. The diameter of the space covered by the branches of this tree is 30 ft. Our negundos, æsculuses, and pavias have nothing about them remarkable. *Kölreuteria* and *ptelea* ripen their seeds freely; *Ailántus glandulosa* is a noble tree, planted twenty-nine years, and 60 ft. high, with a trunk 5½ ft. in circumference. It sends up abundance of suckers, and has a magnificent effect in the garden. We have several kinds of holly, which we use for hedges. *Paliurus australis* also makes an impenetrable hedge.

Sophora japonica seeds freely with us, and we generally propagate it by seed. The wood of this beautiful tree is of a pale yellow colour; it has a fine grain, and is capable of being used in the same way as the walnut and other beautifully grained woods. I have tried some pieces of it myself, which has convinced me of its utility for making fine articles of furniture. It has been stated, in an agricultural journal here, that its juice dyes wool of a beautiful orange colour. I know that experiments have been tried with it, but I do not know the result. There are two specimens in this garden; one with pendent branches, and the other with variegated leaves. The largest is about 50 ft. high. *Virgilia lutea* is here a small tree: we have propagated it by grafting and by budding it on the *Sophora japonica*; but it does not last long. There is a noble *Robinia Pseud-Acacia*, only twenty-nine years old, in this garden, 75 ft. high, with a trunk 6 ft. in circumference, and branches covering a space 120 ft. in circumference. The wood of this tree is used for many rural purposes. Young plants of it were formerly much employed in forming hedges; but this is now abandoned, because the tree was found to impoverish the soil; and, as it grew old, it lost its spines: besides, from always being kept as a bush, it was obliged to be so continually pruned, that at last the plants became mere stumps. *R. umbra-*

culifera is truly magnificent in landscape-gardening; but we have not yet seen it in flower. It is propagated, like the other species, by grafting. *Gleditschia triacanthos* has grown with us to the height of 80 ft. in twenty-nine years. It was also formerly used for hedges; but, like the robinia, it was soon given up.

Amýgdalus orientális flowers here freely every year; and it stood the severe weather of the winter of 1829–30. It produces plenty of seed every year, by which some plants are raised, while others are propagated by grafting on the *Amýgdalus communis*: the latter mode, however, only lasts five or six years. We have a good collection of *Cérusus* and *Cratægus*. Among the latter, *C. nepalénsis* produces plenty of seed; and *C. stipulácea* [mexicana] requires protection in winter. It has not yet flowered. *Photinia serruláta* is covered with straw in winter; but it flowers freely, and produces an immense quantity of seed every year. *Sórbus nepalénsis* [vestita] requires to be protected in winter. It has not yet flowered, and is grafted on *Cratægus Oxyacantha*. *Eriobótrya japónica* stands out, but must be protected by straw during extreme cold. On the Lake of Como, where the thermometer is never more than 6° below zero, and where the fogs are never very cold; it stands out without any protection, and produces abundance of fruit of the most delicious taste.

Arbutus U`nedo [?] requires to be covered with straw in winter. *Bumelia lycioides* stands out, but does not produce any fruit, although it flowers freely every year. It is grafted on *Fráxinus excelsior*, but does not last more than three years. *Diospýros Lótus* and *virginiána* both thrive very well in this garden, and fruit freely. When the fruit is quite ripe, or, at least, when it falls from the tree, which always takes place after the leaves drop, it is laid on straw in a room until it loses its acidity, and becomes sweet and delicious to eat. We have a tree of *D. Lótus* planted twenty-six years, which is 35 ft. in height; and one of *D. virginiána*, planted twenty-four years, which is 40 ft. high. We have two other species, *D. pubéscens*, which has not yet flowered, and *D. Kàki*, which requires a covering of straw during winter, and has also not yet flowered. We have excellent collections of *Pýrus* and *Fráxinus*. *Cátalpa syringæfòlia* is one of the most ornamental trees for landscape-gardening; and particularly so when it is in full flower. The pod is in great repute amongst the people here as a cure for the asthma. The *Maclúra aurantiaca* is propagated here by suckers, or by grafting on the *Broussonétia papyrifera*. It has borne fruit this year, for the first time; but even now (Oct. 15.) it is not yet ripe. We have a *Plánera aquática* 18 ft. high, and eighteen years planted; twelve species of *Ulmus*, and good collections of *Céltis*, *Mórus*, *Jùglans*, *Pópulus*, *Bétula*, *Álnus*, *Sàlix*, &c. We have twenty-nine species of oaks. We have a beautiful

weeping beech, and a tree of *Castanea pumila*, which bore fruit this year for the first time. We have five kinds of *Platanus*, one pendulous. Great use is made of the wood of *P. occidentalis* by carvers. *Liquidambar imberbe* has not yet flowered here, but it is propagated by grafting on the *L. styraciflua*.

Our largest male salisburia is 24 ft. high, and flowers freely every year. Our largest female plant is 8 ft. high, and has not yet flowered. The deciduous cypress here is about 50 ft. high, and it is covered every year with seed, which ripens well. A quantity of protuberances grow at its roots, which are obliged to be removed, to prevent them from obstructing the canal, on the banks of which it is planted. Another tree, which is planted in a deep clay soil, has grown to the height of 35 ft., the circumference of the trunk being 42 in., and the space covered by the branches measuring 40 ft. This one has never produced any protuberances. We have also a good collection of pines and firs, many of which have attained a very considerable size.

ART. III. *Remarks on laying out Public Gardens and Promenades.*
By the CONDUCTOR.

By a public garden, we here mean a garden into which the public are admitted, either gratuitously, or on the payment of a small fee. Till within these few years, there have not been many such public gardens or promenades in Britain, except in the metropolis, though they have long been common on the Continent. There is no town of any consequence in France or Germany that has not either a regular enclosed garden, in which flowers, as well as trees and shrubs, are cultivated, and the gates of which are attended by keepers to exclude dogs, &c.; or a promenade, in which various kinds of trees and shrubs are grown, and seats placed in different situations: and both, sometimes, also contain temples or covered seats, as resting-places, and cottages or pavilions as coffee-houses. The finest public flower-garden in Germany is, unquestionably, that of Frankfort; and the finest promenade garden on the Continent is the English Garden at Munich. Gardens of both descriptions are every where on the increase; and, what will agreeably surprise most of our readers, they are becoming numerous even in Spain, as has been already stated (p. 631.), on the authority of the interesting *Sketches in Spain*, lately published by Captain Samuel Edward Cook. It is particularly gratifying to find, throughout the Continent, that these gardens are, in many instances, taking the place of the ramparts and fortifications of towns; a circumstance which we may regard as a sort of pledge

for the general peace of Europe; or, at all events, as a proof that nations contemplate, in case of any future quarrel, a more speedy mode of bringing it to a conclusion than the ancient tedious ones of besieging and defending fortified towns.

Public gardens are just beginning to be thought of in England; and, like most other great domestic improvements in our country, they have originated in the spirit of the people, rather than in that of the government. On the Continent, the contrary has generally been the case; and the public gardens have either been formed by kings or emperors, such as those of Munich or Vienna; or by the governors of cities, or the corporations of towns, as in the case of those of Warsaw, Strasburg, and Frankfort. This difference arises from the difference between the kind of government which prevails on the Continent, and that which prevails in Britain.

On the Continent the power originates in the governors, and is steady, because property and knowledge are there comparatively stationary; in England it originates in the governed, whose property and knowledge are continually accumulating and varying. Hence, many objects which are thought to be exclusively the business of government on the Continent, such as the supplying of towns with water, the formation of public roads, &c., are, in England, effected by private companies, requiring from the legislature only its consent. The unity of power and of system, in the one case, has greatly the advantage over our system of private companies, when the monarch or the government happens to be liberal and enlightened; and when the execution of the works does not fall into the hands of jobbers, which, it must be confessed, is comparatively much seldomer the case in France and Germany than it is in England. Hence, in all the great public improvements on the Continent there is a unity and consistency of plan and execution, which is not to be found generally in those of England. Take, for example, our public roads: with the exception of some roads that have been lately altered under the direction of government, or of some turnpike company, they appear to be entirely the work of chance, the mere enlargement of horse-tracks or footpaths. How superior, in point of direction, are the roads in France and Germany! But, not to enlarge farther on the different modes of effecting public improvements in Britain and on the Continent, we shall merely state the conclusion which we have arrived at, after maturely considering both modes, as far as respects public gardens; which is, that, as the whole population of towns is intended to benefit by such gardens, they ought to be effected by the government or corporations of such towns, and at their expense; rather than that the public should be at the mercy of

any particular company, the object of the members of which must necessarily, to a certain extent, be gain.

The desire for public gardens, felt by a portion of the people in England, has given rise to societies for their production; and hence we have the gardens of the Zoological Society of London, and a few others, such as the Botanic Gardens of Liverpool, Hull, &c. The formation of these gardens by public associations may be regarded as an indication of a rising taste for this kind of enjoyment; and, as a farther indication of it, we may refer to the favourable reception given to the bill brought forward during the last session of parliament, by Mr. Buckingham, for establishing a public garden at every town and village where a majority of the rate-paying inhabitants expressed a desire to have one. Till some such law as this has passed, public gardens will not have a fair chance in Britain. It is in the hope that such a law will be passed at no distant period, from the general recommendation of botanic gardens, in the *Minutes of Evidence*, taken before the Select Committee on Arts and Manufactures, just published by the House of Commons, and in the full confidence that the result will contribute immensely to the humanising and happiness of the great mass of society, that we submit the following remarks to our readers at this time.

Public gardens may be considered as of the following kinds:—

I. **PROMENADES**; that is, walks or roads, of considerable extent, among trees, and such other verdant scenery as the situation may afford, heightened and rendered more interesting by art: for example, the walks at Oxford, and the public squares.

II. **PARKS**; that is, enclosed spaces, of considerable extent, varied by wood, water, rocks, buildings, and other objects; and surrounded and interspersed by roads and walks; grazed by sheep, deer, or cattle; and without flowers and shrubs: for example, Hyde Park.

III. **GARDENS**; which are of several kinds; that which is common to them all being, that they are enclosed; and that, where there is turf in them, it is not grazed by any kind of cattle, but kept smoothly mown.

A. Scientific Gardens.

1. *Zoological Gardens*, for the display of a collection of animals: for example, that in the Regent's Park, London.

2. *Botanical Gardens*, for a display of a collection of trees, shrubs, and plants, in the open ground, and in structures heated artificially: for example, that of Liverpool.

3. *Horticultural Gardens*, for a display of the trees, shrubs, and plants which are cultivated for horticultural and floricultural purposes: for example, that of London.

4. *Agricultural Gardens*, for a display of the trees, shrubs, and plants used in agriculture: for example, that of Alfort, described in Vol. VI. p. 391.

5. *Arboretums*, or collections of all the hardy trees and shrubs that can be procured, which will stand the open air in the given situation.

6. *Herbacetums*, or general collections of all the herbaceous plants that will stand the open air in the given locality.

7. *Plantariums*, or general arrangements of all the plants, both ligneous and herbaceous, that will stand the open air in the given locality.

8. *British Floras*, or gardens of British plants, ligneous and herbaceous.

9. *Local Floras*, or assemblages of the plants of the neighbourhood, district, or province, ligneous and herbaceous.

10. *Exotic Gardens*, in which plants are grown under structures heated artificially.

11. *Geographical Gardens*, in which the plants, either hardy or exotic, or both, are arranged according to their native countries.

12. *Geological Gardens*, in which hardy plants are arranged according to the soils in which they thrive best.

B. *Landscape-Gardens.*

1. *Fac-simile Imitations of Natural Scenery*; that is, scenery imitated in such a manner, as, if possible, to be mistaken for nature.

2. *Artistical Imitations of Natural Scenery*; that is, natural scenery imitated according to the principles of art: viz. either in the picturesque or gardenesque style.

3. *Imaginary Scenery*; that is, scenery imagined and composed according to the principles of art.

4. *Geometrical Scenery*; scenery arranged in geometrical lines and forms.

C. *Gardens for Recreation and Refreshment.*

1. *Tea gardens*, tavern gardens, and gardens for music and dancing.

2. *Archery grounds*, bowling greens, cricket grounds, tennis courts, and other gardens for sports, pastimes, and athletic exercises.

D. *Gardens for Burial.*

1. *Cemeteries*, that is, enclosures of considerable extent for interment generally.

2. *Churchyards*, that is, enclosures round or adjoining to a church, or other building set apart for public worship.

It is almost unnecessary to observe, that the different kinds of scientific gardens might all be combined in one enclosure, provided it were sufficiently large; and, also, that the landscape-gardens, and gardens for recreation, might, where the extent admitted, be also included in one. In general, however, unless the space is very ample, a zoological garden is better by itself; and the same may be said respecting the gardens for recreation and refreshments. Landscape-gardens may, to a certain extent, display an arboretum; but can in a very limited degree answer any other purpose of scientific gardens. We shall first lay down some principles which are common to all these gardens; next, give a short outline of the mode of designing each; and we shall give, in our succeeding volume, a plan and description of a design for a public garden, with a priced list of the trees and shrubs to be planted in it, which we have lately made for the corporation of an English town, and which is at this time (Nov. 1835) being carried into execution.

The first general principle, universally applicable in laying out a garden, is — that, as every garden is a work of art, Art should be every where avowed in it. The idea that nature is the great object of imitation in what are called English gardens has led to much error, from the expression not being correctly understood. Nature is to be imitated; but, as we have repeatedly stated, neither in gardening, nor in painting, nor in any other art considered as a fine art, is it to be imitated in such a manner as that the result shall be mistaken for nature itself. It is true that nature is imitated, in some arts, with a view to produce objects which shall be so like natural ones, as, at a very short distance, to be mistaken for them: for example, in the art of forming, colouring, and clothing wax figures of human beings; or of forming and colouring wax figures of fruits; but these arts have no claim to be entitled fine arts. It may be said that the modern style of laying out grounds is assuredly an imitation of nature, as compared with the ancient, or geometrical style; and, undoubtedly, it is so: but still, as the use of language implies, it is the imitation of nature in a garden, not the bare imitation of nature. Certain smooth and beautiful portions of turf, and groups of trees, which occur in nature, are imitated, and adapted for the use of man, in lawns and pleasure-grounds; but they are always separated from such imperfections as accompany them in nature; or the trees which form the groups are of foreign kinds, so as to give the work produced the character of art: in short, to rank it as the production of man. The most beautiful and picturesque pleasure-ground in England could never for a moment be mistaken for a piece of natural scenery: it is seen at once to be as much the work of art as a French geometrical garden; but of art em-

ployed in a different manner. The resemblance of the result to the scenery of nature, more than to the forms and lines of architecture, has, very naturally, given rise to the idea that it is simply an imitation of nature; and this idea, misunderstood, has occasioned the mistake to be made, that a modern garden, to be perfect, ought to be such a scene as to be easily mistaken for nature itself. See, on this subject, Vol. VIII. p. 702., and Vol. X. p. 558.

The second principle, which ought to pervade every description of garden, is, Unity of expression. "The mind can only attend to one thing at one time," so as to derive the full knowledge or enjoyment of it; and hence, when a multiplicity of objects are placed before it, they must be so disposed as to form one object or picture, so as to be seen at one glance, otherwise the mind would be distracted, and deprived of that repose which is essential to comprehension and enjoyment. As we have said a good deal on this subject in different parts of this Magazine, and in the *Architectural Magazine*, more especially in the first volume of it, we shall only further remark here, that the want of this unity of expression is a prevailing error in most public gardens; and, indeed, in most private ones. Not only are too many objects crowded into one scene, so that the spectator does not know to which to direct his attention first, but even so many walks offer themselves to his choice, that he is at a loss which to take; not wishing, on the one hand, to omit seeing any thing; nor, on the other, to see any thing twice. Now, if the principle of unity were properly attended to, there would be no leading walk seen at one time but the one walked on; and, instead of the spectator being left to choose what object he would fix his attention on, there ought to be only one leading object presented to him at one time, to which he could attend. The walks in most of our public gardens, crossing in all directions, seem intended to puzzle, rather than to lead to all the different points of view. In this respect, English gardening is too often a direct imitation of the Chinese; the avowed object of which is to perplex. It ought to be laid down as a rule, derived from the principle of unity, that there should be one main walk, by walking along which every material object in the garden may be seen in a general way; that the end of this walk, and its commencement, should be at one and the same entrance; or that the commencement should be at one main entrance and the exit at another, and that not more than two main entrances should be admitted; and that it should show no scene twice. From this main walk there may be small episodical walks, to display the beauties of particular scenes in detail; for example, to show particular animals, or classes of animals, in a zoological garden; or particular compartments of plants, in a botanical garden: but it ought to be a rule, derived from the same principle, that

these episodical walks should never exceed one third of the width of the main walks, and that they should always proceed from the main walks at right angles, so as not to seem to invite the stranger to walk in them. By attending to these two rules, there would never be any danger of a stranger mistaking an episodical walk for a main walk.

The next principle which we shall mention is, that of Variety, on which very little need be said. It is obvious, that, to excite attention and to keep alive interest, one kind of scene must succeed another; and that this difference in the kind of scenery produced constitutes what is called variety; without which nothing can please for any length of time.

The next principle to be attended to is, that of Relation, or Order. Scenes in a garden should not succeed one another at random, but according to some principle of succession, founded on the nature of the scenes to be exhibited; and this order of succession should be recognisable from the first by the spectator, in the same manner as the first strain of a piece of music enables the hearer to form some idea of what is to follow. The spectator ought never to be taken violently by surprise, or startled; for that is the character of the lowest degree of art. In a zoological garden, the visiter should not be led from a cage of canary birds to a den of lions, without passing through the intermediate gradations of birds and of quadrupeds; and, in a botanical garden, he should not pass at once from plants of the torrid, to those of the frigid, zone, where the arrangement is geographical; nor from *Ranunculaceæ* to ferns and mosses, where it is scientific. In a picturesque garden, level, rocky, hilly, and lake scenery should not follow each other at random, nor in such a manner as to produce violent contrasts, but according to consistency and truth.

These principles, fully understood, will be sufficient for our general guidance in laying out all the different descriptions of public gardens we have mentioned; and we shall now indicate the manner in which they may be applied to each; introducing, where it is required, particular principles, such as those of the picturesque, the gardenesque, &c., as guides for the creation of particular scenes.

PUBLIC PROMENADES.

These, in general, occupy narrow strips of land in the vicinity of towns, along a river, on a hill side, on a ridge, or simply on flat ground, bordered by trees. For carriages or horses, the roads should be made never less than 20 ft. wide, but from 30 ft. to 50 ft. is much better. For pedestrians, the walks should never be less than 10 ft. wide, but they may vary to 30 ft., according to the population of the place, and the extent of the grounds.

If possible, there ought to be summer walks and winter walks; the former shaded, and the latter open and sheltered from the north, or from whatever quarter the coldest winds are found to blow, according to the situation and exposure. Where the promenade consists of only one walk, if the space it traverses permits, a portion of it should go in the direction of north and south, for winter use; and the trees which shade that portion of it ought to be of deciduous kinds, which drop their leaves early. The trees on the north, or cold side of a walk, in the direction of east and west, ought to be evergreens.

In the formation of the walks, whether in their direction, or in the inclination of their surface, the principle of the recognition or avowal of art ought to be always kept in view. All the turns and slopes must be of that "measured" and regular kind, which has the opposite expression to that of common footpaths through meadows, in the same way as the "measured steps and slow" of a public officer in a procession can always be distinguished from those of a simple countryman or a child at his ease. A perfectly straight walk should either be apparently level, or it should be of one uniform slope or curve. A winding walk should never wind without a real or apparent reason; and an apparent reason can always be produced by trees, if there is no real one. Where there are remarkably fine points of view, the walk should be so directed, and its margin so planted, as not to exhibit the view till at the most favourable situation for seeing it to advantage; and it should then be continued in a straight direction for a short distance, with the prospect full in front, in order to prolong the enjoyment of it.

Abundance of seats, covered and open, should be placed in situations affording favourable points of view; and the covered seats, in the moist climate of Britain, should in general be only open on one side, and that side placed towards the south, in order that the interior may be exposed to the sun's influence. Every public walk should have a drain or drains along its centre, or at its sides, with which gratings and bell-traps, or small cesspools, should communicate, so as to admit of taking out, from time to time, the sand which the water carries through the grating, and thus to prevent it from choking up the drain. These gratings, on a level surface, should be made at the sides of the walk, at short distances, and their upper surface should be on a level with that of the gravel; but, on declivities, the surface of the grating requires to be inclined towards the surface of the walk, so as to receive the current, which would otherwise, from its rapidity along the declivity, be apt to pass over it. There are many other considerations relating to the subject of forming public walks; but it would occupy more space than we can afford to this article, to dwell upon them here.

PUBLIC PARKS.

These are jointly for the use of persons on horses or in carriages, and pedestrians. In general, the carriage road should be confined to the circumference of the park, and the interior appropriated to persons on foot. When seen from the carriage road, the interior of the park will look best when it is not much intersected with walks for pedestrians, especially if it is of limited extent; but, on a large scale, such walks may be admitted without in the slightest degree interfering with the general effect. The first step in forming a public park, after it is enclosed, is to lay out the road; and, if the interior is to be reserved for pedestrians, which we think it always ought to be, the road will be, in a great measure, a repetition of the boundary line, at a certain distance within it; deviating, however, from that line, when necessary, for the purpose of displaying particular views of exterior scenery, or of varying the views of the interior. In general, much of the beauty of such a park will depend upon the manner in which the interior is planted. Trees must, in most cases, be placed near the road, so as to form foregrounds to the interior of the park; and, between the road and the boundary, they will be required for the purpose of disguising that boundary, or forming foregrounds to the scenery beyond; and for various other purposes, according to the situation and the effect required to be produced. In the interior of the park there should be few or no closely planted masses; for the effect of these is to diminish the apparent space, and to curtail the appearance of extent from every point of view. The effect of a mass may almost in all cases be produced by planting an open grove of scattered trees, or groups, which, at a distance, and on ground not very hilly, will combine into one whole. The trees should be disposed so as to give the greatest depth of view across the park, and, at the same time, never to show the road or the boundary in the distance. No portion of the road, indeed, ought ever to be seen but the portion travelled on; because the effect of showing more always assists the eye in measuring the extent of the enclosure, and, consequently, sets bounds to the imagination, which would otherwise be disposed to conceive it to be larger and better than it really is. For the same reason, the fewer the entrances into a park, and the more these are kept together (if there be more than two at opposite sides), the better; for the appearance of an entrance, wherever one occurs, in driving round, always gives rise to the idea of the boundary fence. Where the surface of the park is flat, without water, and without buildings, or a distant prospect, all that can be done is, to vary the character of the glades, in size and in form, by the disposition of the trees; and somewhat in character by the kinds of trees planted.

The trees to be planted should always be placed so as to follow

each other in some recognisable order. This order, in a park, may either be historical, geographical, geological, or scientific. The trees may be considered as placed historically in a park, one part of which is very old, and of course has been planted with the commonest trees of the country; and the other part of which is new, and has been planted with the trees of other countries, of recent introduction. This kind of arrangement cannot often occur, or be considered desirable. The geographical mode is much more interesting and satisfactory; and it is particularly eligible for a park with a flat surface, and a tolerably favourable soil and climate. In that part of the park where it is desirable that the greatest beauty and interest should be created, the trees of North America should be placed; to these may succeed the trees of Greece and Italy; next those of France and Germany; then the British trees; and lastly those of the north of Russia, and of Sweden and Norway. Where the surface of a park is much varied, the geological order will generally be found the best, more especially if there is also a variation in the soil, and a stream or a piece of water in the grounds. The spiry-topped firs, and other trees of mountains and rocks, will occupy the hilly parts; those of moist ground the margin of the water; and the trees of plains, such as most of those of America, and the more beautiful of those of Europe, the intermediate spaces. In a scientific arrangement of the trees of a park, it will be sufficient to keep the genera and the natural orders together, so that one species of a genus, or one tribe of an order, may not be found separate from the others, in different places of the park.

If we examine any of our parks, either public or private, by the above rules, derived from the principles laid down, we shall find them altogether deficient. If we examine the plantations of Hyde Park, or Regent's Park, geographically, we shall find trees from the most opposite parts of the world placed close together; such as the spruce fir of Norway, and the Turkey oak of Asia, or the red oak of North America. If we examine them geologically, we shall find the white-barked birch of the peat bogs of Russia and Sweden adjoining the larch of the Alps; or the pinaster of the sea shore, and the willow of the river, close to the Scotch pine of the mountain. The truth is, that parks, hitherto, have generally been planted without the slightest regard to these principles, or to any other; unless in some cases, where artists have been employed who have understood the principles of grouping and forming a whole; or where gardeners have imitated natural forests, and adopted the principle of causing one kind of tree to prevail in one place. Unfortunately, however, the great leading artists who have practised as landscape-gardeners, since the time of Brown, have been, with scarcely a single exception, deficient in the requisite knowledge of trees. Another

reason is, that the taste of the employers of landscape-gardeners is not yet sufficiently cultivated to know right from wrong; and hence such persons would be unwilling to incur the requisite expense of making a working plan which should indicate the situation of every tree and shrub that is to be planted. It is not sufficient, for the purpose of improving the public taste in landscape-gardening and architecture, that there be competent artists in these lines of art; it is necessary, also, that the public should have attended to the subject, to such an extent as to know what is really excellent when it is placed before them. In landscape-gardening, therefore, as in every thing else, the only certain mode of insuring the progress and the durability of improvement is, to enlighten the people generally, and to create in them a superior degree of knowledge and taste; in short, to make all men critics, in all that concerns the general improvement and ornament of towns and the country, and the comfort and enjoyment of the great mass of society. We look to the establishment of public parks and gardens, in the formation and management of which the rate-payers of every town or village shall take an interest, as likely to be a very efficient means for the attainment of this desirable end; and we should be glad, also, to see the establishment of such a society as that recommended by a correspondent, p. 280., for promoting the improvement of the public taste in architecture and rural scenery.

SCIENTIFIC PUBLIC GARDENS.

Zoological Gardens have, from the remotest periods of civilisation, been connected with regal governments. In modern times, they appear to have existed in different parts of Europe since the era of the Crusades; and though for many centuries the animals were few, consisting, perhaps, of one or two lions, a tiger, a monkey, &c., and the space in which they were kept was very confined, yet still these limited menageries may be considered as the origin of zoological gardens. In this case, as in various others which have happened, and will happen, that which is at first a luxury, and enjoyed only by kings, princes, and the wealthy, becomes at last in general use by the great mass of society. This, indeed, appears to be Nature's mode of advancing civilisation. What man is capable of enjoying is first exhibited in the case of a few solitary individuals, as a *beau idéal* to be aimed at; and, after ages of slow but steady progress, it at last comes within the reach of the whole of mankind.

The situation for a zoological garden should be chosen on nearly the same principle as that for a dwelling-house. The first considerations ought to be such a climate, such an elevation, such a soil, and such an aspect and exposure, as are most likely to be conducive to the health of man, when, of course, it will be so to that of the inferior animals. The soil should, if possible, be

naturally dry, and, consequently, either on sand, gravel, or some description of rock. A clayey or loamy soil, or a soil of rich black earth, though it may be thoroughly drained both by under drains and channels on the surface, can yet never be rendered so wholesome as a soil naturally dry; because the clay, the loam, or the rich vegetable earth, will retain the water longer than the sand or the gravel. The water falls on the two latter soils as if on a sieve, that is, to sink through it; but on the three former it falls as on a sponge, that is, to be greedily absorbed by it, and to soak slowly through it, or be slowly evaporated from it. The general climate must, of course, depend on the country in which the zoological garden is proposed to be placed; but the local climate may sometimes be a matter of choice. It should, if possible, be mild and dry, because that will not only be more favourable for the animals of the temperate regions bordering on the tropics, but it will lessen the expense of warming the apartments of the tropical animals during the winter season: for the same reasons, the aspect should be warm, for which purpose the south-east or the south will, in Britain, generally be found preferable; and the exposure should never be to the most violent winds of the locality, but the contrary.

The extent, the nature of the boundary fence, and the kind of artificial shelter to the whole garden, may be passed over as likely to be determined by local circumstances. The arrangement of the garden is the most important object. Whether this ought to be geographical, geological, or scientific, we are not at this moment prepared to state; never having had the same occasion to mature our ideas on this subject, that we have had respecting every other description of scientific garden. Certain we are, however, that the arrangement ought to be formed upon some principle, otherwise the establishment can be only considered as a fixed menagerie, or caravan of wild beasts on a large scale; it can have no pretensions to be considered as scientific. A geographical arrangement has this advantage, that all the buildings which require to be heated during winter may be warmed from the same source. A geological arrangement could not be displayed with much effect in a space of two or three acres, as the principal feature in such an arrangement would be keeping the aquatic animals in or near the water, the goats on rocks, the burrowing animals in sand-hills, &c. A scientific arrangement is practicable, though it would be attended with much more expense than a geographical one, as by it the tropical animals would require in some cases to be placed among those of temperate regions, or even of the frigid zone. Without determining which arrangement is the best, we repeat our remark, that some definite one ought to be adopted and maintained throughout the establishment: our opinion is, that the geographical one is

decidedly the best. A scientific correspondent, to whom we have submitted this article, is also in favour of the geographical arrangement ; and justly observes that "it is the habits, and, of course, habitats, that we study in living animals ; and the structure in dead ones, to which alone the scientific arrangement seems appropriate." An hospital, and a reserve department for breeding and rearing, may be considered as essential to a complete zoological garden.

Whatever arrangement is adopted, the trees and shrubs ought to follow it, and we should not have the bears of the north placed among the ilices of Italy, or the goat of the Alps among the magnolias of America. We do not carry this idea so far as to say that we would introduce tropical trees in the houses devoted to tropical animals ; that, we know, would be impracticable, except in the case of the smaller birds : but what we contend for is, that the associations of nature should be violated as little as possible ; and, though we could not place our elephant amid palm trees and bamboos, we would at least not surround him with birches, trembling poplars, and other trees of the frigid zone.

The great object in a zoological garden, which must necessarily contain many buildings in a small space, is to show only one building as a leading feature at one time. To do this, to conceal all the walks except that which is walked on, and at the same time to show depth of landscape, are matters that require considerable care and skill ; but they may be effected where the soil is dry, and where there are no existing objects to interfere with the disposition of the ground. It is not easy for a person who has not had some experience in laying out grounds, to conceive how much may be effected in the foreground of a scene, by lowering the walk 3 ft. below the general level, and raising a bank at a short distance from it, the same height above the general level. Much may be done by changes of this kind, even independently of the use of trees and shrubs ; and the effect of the whole can be determined by the application of the laws of perspective, before any part of it is carried into execution.

The principle of laying out the walks of zoological and other scientific gardens has been already mentioned ; and too much consideration can hardly be given to the subject by the artist. It is not, perhaps, altogether fair to criticise with extreme severity the walks in the London Zoological Garden ; because that garden has been formed by degrees, and one portion added after another ; nevertheless we have the clearest evidence in the portions from time to time added to this garden, that the rule of having but one leading walk to show the whole, which shall not omit any main feature, or show any thing twice, has not been kept in view ; or rather has never been thought of. What can be worse than the connexion of the entrance terrace-walk of that garden with

the paltry walk which diverges from it to the left, at its farther end? The terrace itself, indeed, is an absurdity, because it in no way adds to the effect of the garden: it is merely a broad level walk, which might be placed any where; whereas so conspicuous a feature ought to have had the appearance of being determined by existing circumstances, or forming an essential part of the general design. The planting of these Zoological Gardens is in every respect as badly designed as the walks, and for it, indeed, there is the same excuse; but, as a proof that the subject of planting is not at all understood by those who have laid out the additions lately made to this garden, we need only refer to the spotty heterogeneous mixture already pointed out. (p. 458.)

Botanical Gardens, Horticultural Gardens, and Agricultural Gardens, we shall at present pass over. Our plan for the Birmingham Botanical and Horticultural Garden, given in Vol. VIII. p. 410., we conceive to be a very good example of the manner in which a botanical, a horticultural, an agricultural, an arboricultural, and an ornamental garden may be united; and, though the garden actually executed is a miserable failure, our design will remain to show what it might have been.

An Arboretum generally forms a part of a botanic garden, but no arboretum has hitherto been planted in any country, with the exception of the one commenced by the Duke of Devonshire at Chatsworth, in which ample room is allowed for the trees to attain their full size. A remedy for this evil will probably be found in the planting of arboretums as distinct public gardens, either belonging to corporations, or to private associations or institutions. The space required for an arboretum, to allow all the species and varieties of trees and shrubs, foreign and domestic, now in the country, that will stand the open air in the neighbourhood of London, to attain their full size, will not be less than from 100 to 150 acres; but much, as we have already observed (p. 386.), may be done in 10, 20, or 30 acres; and we hope that arboretums to this extent will sooner or later be established, as part of the public gardens of all our large towns. In some, indeed, the entire garden, park, or promenade may be planted as an arboretum. In short, in all public gardens whatever, unless there be some specific reason to the contrary, it would contribute greatly to their interest and beauty, if never more than one specimen of each kind of tree and shrub were planted; unless there were room for duplicates, triplicates, or more, which, in that case, should be placed all together.

An arboretum may be arranged in either of the three modes before mentioned; viz. geographically, geologically, or scientifically. Where the surface is flat, and the soil and climate uniform, or nearly so, some scientific mode will be found preferable; but where the soil and surface are exceedingly irregular, a geo-

logical arrangement is to be preferred. The geographical arrangement is best carried into effect on the same description of surface as is suitable for a scientific one. Whichever system of arrangement is adopted, one main walk should be conducted through the whole, so as to pass in review every individual tree and shrub, and yet to show no plant twice. One of the best modes of doing this, in an arboretum within an enclosure, is, to plant the trees only on one side of the walk, and at different distances from it; according to the heights which they are calculated to attain at that period when they will become too thick, or, in other words, touch each other. Whatever this height may be, provided it be greater than that of the human eye from the ground, the tree or shrub ought to be placed at such a distance from the walk as that the eye may see the top of it at an angle of from 30° to 40° . A tree that grows 40 ft. high, or is expected to attain that height before it is cut down, ought, according to this calculation, to be placed about 50 ft. from the walk; and a shrub that grows 10 ft. high, about 10 ft. from it. Every shrub, however low, ought to be placed at such a distance from the walk as that its branches, when fully grown, may not reach nearer to it than from 1 ft. to 2 ft. In an arboretum laid out in this way, every tree and shrub will pass in review before the spectator on one hand, as he walks along, without his being distracted by the necessity of looking to both sides of the walk, and the consequent fear of missing some specimen. If the space to contain the arboretum is very ample, this principle may be joined to that of displaying views of distant scenery, or forming glades within the arboretum. Thus every order, or tribe, or genus, may form one large group, the individuals composing it being still at such distances as not to touch each other when fully grown; and the space between the orders, tribes, or genera, may form open glades.

Before planting, the ground ought to be deeply trenched, and thoroughly drained, adding manure in considerable quantities, in order to insure a rapid growth; and introducing peat earth, sand, and other soils suitable for particular genera or species, at the time those genera or species are planted. The surface of the ground, for 2 ft. or 3 ft. round each plant, ought to be kept clear of weeds and grass, by hoeing or hand-weeding, for the first five or six years; but on no account ought it to be dug, because that would prevent the roots from coming to the surface; the consequence of which would be, that, being confined exclusively to the moist cold soil below, the trees would be later in sending out their leaves in spring, and in ripening their wood in autumn. All the rest of the surface may be under grass, and mown regularly; the cut grass being laid round the roots of the trees and shrubs as a mulch, to lessen evaporation and diminish

heat during the hottest weather of summer. If the ground over which the walk has been conducted has been trenched to the same depth as the rest of the space, it would be advisable not to finish the edgings and gravelling of the walk for a year at least after it has been laid out, in order that it may settle equally. Every tree and shrub ought to have its name, scientific and English, its native country, and year of introduction, height in its native country, and its time of flowering, with the date of its being planted in the arboretum, painted or otherwise delineated on, or affixed to, some description of label.

The architectural ornaments for an arboretum should be few, because the eye and the mind ought not to be diverted from the study of the trees. There may be seats open and covered; and busts of botanists near the trees which have been named after them. In a geographical arrangement, the arms of the different countries may be sculptured on blocks of the kind of rock which is characteristic of each country; and the seats, whether covered or open, might be in the style of the particular country represented. For example, a seat among the trees of Lapland should be in the form of a circular hut; and among the pine and fir tribe of Switzerland, in that of a Swiss cottage, &c. Herbaceous flowering plants ought, in our opinion, to be altogether avoided; unless it be intended that a complete natural arrangement of hardy plants is to be produced, as in a plantarium.

Of all the different descriptions of scientific public gardens that can be formed, an arboretum is that which will require least expense in its after management; while, at the same time, every year will occasion a change in its appearance. The trees and shrubs being once planted (even though of the smallest size purchasable in the nurseries), the source of interest, during the first year, will be to see the different degrees of growth produced by the different species; the second year, some will have attained a decidedly larger size than the others, and some shrubs will have flowered; the third year, the difference in regard to bulk will be still greater, and numbers of the shrubs, with some of the trees, will be coming into flower; the seventh year, the greater number of the low trees will have flowered and fruited, and now the arboretum may be considered in its greatest beauty. This beauty will not be of short duration, like that of herbaceous plants, but will be continued and varied as the trees attain to their full maturity of growth; and this, in a properly prepared soil, will, practically speaking, be in about twenty or thirty years from the time of planting. In that period, in most parts of Britain and Ireland, the taller-growing poplars and elms would have attained the height of from 100 ft. to 120 ft.

We cannot help deeply regretting that no arboretum, such as we have described above, has yet been formed in the neighbour-

hood of London. The greatest praise is due to Messrs. Loddiges, for having set the example in their nursery; and praise, also, is due, on the same account, to the London Horticultural Society: but both these arboretums have been necessarily made on too limited a scale to answer all the uses required; and both, to a certain extent, have been injured or neglected. It is our intention strongly to recommend the formation of an arboretum within ten miles of London, of from 100 to 150 acres in extent; and, farther, we trust we shall be able to induce proprietors of estates within ten miles of London to form collections of particular genera, to such an extent as to include all the species which will grow in the open air in that district. For example, we shall propose to one proprietor to undertake the American and European oaks; to another the ashes; to another the elms; to another the genus *Cratægus*, &c. To the proprietors of small estates, say of only a suburban garden, we shall propose smaller-growing plants: for example, to one who has good walls, the *Clematideæ*, or some other tribe or genus of climbing shrubs; and to another, who has not a wall, and can spare but little space, the ligneous *Cruciferae*, &c. We shall propose to these different proprietors that a list of their names and residences be published in the *Gardener's Magazine*, with the genera or orders which they have undertaken; and that they shall permit, on one day in the week or month, throughout the year, the admission of all botanists and gardeners whatever to examine and study them. If this plan succeed, the result will be a considerable increase in the number of the species and varieties, and, ultimately, great accuracy in nomenclature; and the farther great advantage, that, after a time, some oaks and other trees would ripen seeds which would be purchased by the nurserymen, or given away by the proprietors; and thus noble trees, now scarcely to be purchased in the nurseries, would spread rapidly all over the country. From these monogeneric arboretums, as they may be called, whatever was new would be communicated to the central arboretum of 100 or 150 acres; and there it might be inspected by that portion of the public who had not leisure to visit the 80 or 100 monogeneric gardens. This plan of monogeneric gardens would put proprietors to scarcely any expense: they would not require to keep a single additional labourer or gardener; and the portion of ground given up to the genus would be as ornamental, considered as shrubbery or pleasure-grounds, as any other part of their garden or grounds. All the positively extra expense that they would be put to would be in the first preparation of the soil, and in the purchase of the plants. On an average, both these expenses could not amount to 5*l.* for each proprietor.

A Herbacetum, or collection of hardy herbaceous plants, would form a very interesting public garden; and one which, as it might

be included in an acre of ground, might be formed at little expense, and kept in order by one man. The arrangement should be in longitudinal groups, according to the natural system; and every plant should be named with various details. In addition to this arrangement, there might be a geographical one, and a geological one; and, by thus placing the same plant in three different modes of arrangement before the spectator, he would recollect its name better, and attain without labour some ideas relative to its nature. If the agricultural, horticultural, medical, and manufactural plants were repeated by themselves, this also would add to the interest and instruction afforded by the garden.

A British Flora, or garden of the plants, ligneous and herbaceous, which are natives of the British Isles, it is needless to state, must be both interesting and instructive. Its arrangement might be either methodical, geographical, geological, or topographical. By topographical we mean the placing of the plants of each county in a group by themselves; and, among these, the more remarkable should be indicated in such a manner as to be readily distinguished. In a very original and ingenious plan for a natural arrangement of ligneous and herbaceous plants, to be formed in the Glasnevin Botanic Garden, made by its enlightened curator Mr. Niven, and which will be found in our succeeding Number, all the plants of the British Isles, of each particular order or tribe, are to be placed on one side of a walk; and all those of foreign countries, belonging to the same order or tribe, on the other side. Among the plants of the British Isles, those peculiar to England are to have cast-iron tallies bearing the bas relief of a rose; those peculiar to Scotland, that of a thistle; and those peculiar to Ireland, that of a shamrock.

A Local Flora, in a public garden, that is, a collection of the plants indigenous to any particular locality, may be worth forming where one of greater extent could not be undertaken; and to such a flora may be applied many of the general remarks already made.

A Plantarium, or garden devoted solely to a display of the whole of the plants, ligneous and herbaceous, which will endure the open air in Britain, would be one of very great interest. The arrangement of such a garden ought, unquestionably, to be according to the natural system; and, for rapid observation of the species, we should prefer them arranged on the same general plan as that which we have proposed for an arboretum; viz. in groups along one side of a walk. To do justice to both the trees and the herbaceous plants would require very ample space; because, to admit of the herbaceous plants displaying themselves to advantage, they require to have abundance of light and air. In a practical point of view, therefore, it will always be found best to have the herbacetum apart from the arboretum. At the

same time, it might be worth while, in the infancy of an arboretum, to combine with it a herbacetum, with the understanding that, as the trees and shrubs advanced on the herbaceous plants, the latter should be removed. Nothing of this kind, however, should be attempted where there is not a very large space allowed to work upon.

Exotic Gardens may be of different kinds; and in each kind the plants may either be grown in pots or boxes, or in the free soil. For our part, we so greatly prefer the latter mode, that we should not think a public garden on the former plan sufficiently distinct from the plant-houses of private gentlemen and nurserymen, to be worth executing. An African garden might consist of an acre or more, chiefly of sandy peat, planted with the trees and shrubs of the Cape; and among them, near the walks, the beautiful bulbs of that country. A heathery in this garden might be limited to the heaths of the Cape; and a palmatum to a collection of palms. An Asiatic garden might be devoted to the bamboos and Scitamíneæ; a Peruvian garden to the araucarias, and other trees and plants of Peru; and an Australian garden, to the trees and shrubs of Australia, &c. The roofs to these gardens should, as we have before stated, be raised on parallel rows of hollow cast-iron columns, to the height of 100 ft.; and the sashes should be hung in such a manner as to be opened, when necessary, simultaneously by a steam-engine, to any degree of extent as far as the perpendicular, in order to admit the direct influence of the sun, whatever might be its angle, and of a shower of rain. See what we have said on this subject in the *Encyc. of Gard.*, in preceding volumes of this Magazine, and in the *Mag. Nat. Hist.*, i. 385.

LANDSCAPE-GARDENS.

Gardens of this description are scientific, only with reference to the principles of composition in painting and architecture. They are much more difficult to form than either promenades, parks, scientific gardens, or gardens for recreation and refreshment. They are also more expensive; because nothing is to be accomplished of any great interest without removal of earth, the formation of pieces of water, and the production of rocks; and without trees and shrubs of at least six or eight years' growth. Not only the designer of such gardens must have the eye and the mind of a landscape-painter, but he must, for the execution of some parts of them, procure a workman who has such an eye, or otherwise superintend the execution of such parts himself. We shall divide these gardens into five kinds; viz. Fac-simile or mechanical imitations of natural scenery; Picturesque imitations; Gardenesque imitations; Imaginary scenery; and Geometric scenery.

Fac-simile Imitations of Natural Scenery cannot be considered as belonging to gardening as an art of culture, because in them all appearance of culture is to be avoided; and they cannot be considered as belonging to gardening as a fine art, because it is not intended that the result shall be recognised as the work of art, but that it shall be mistaken for nature itself; in short, that the spectator shall be imposed upon. Such gardens do not require to be made by gardeners: any person possessing a painter's eye, and assisted by country labourers, masons, and carpenters, will form them just as well as a landscape-gardener. They may very properly be called *Mechanical Imitations of Nature*.

The situations where, as a matter of curiosity and surprise, it might be desirable to produce a fac-simile imitation of natural scenery, we may suppose to be in the heart of a great city, or in its immediate neighbourhood. Suppose, in a central part of Hyde Park or Kensington Gardens, there was an immense gravel pit: let the bottom of it be covered with turf, smooth in some places, and in others mixed with nettles, thistles, and other weeds, and varied by thorns, briars, brambles, elder bushes, and other trees and shrubs that generally spring up on waste ground. In one or two parts of the bottom of the pit let there be pools of water, with rushes and other aquatic plants, and some alders, and willows of the commonest kind, for shade. These and other details being executed in the bottom of the pit, surround it on the outside by a thick plantation of one or two kinds of trees and shrubs, such as are generally found in copse-wood; and let there be a winding straggling path through this copse-wood, of such a length as to obliterate for the moment the impression of the scenery of the park or gardens on the mind of the spectator. If the plantation were surrounded by a hedge or other fence, and the entrance to the path were through a gap in this fence, the deception would be the more complete.

A higher character than the above, but which should be equally mistaken for nature, or the result of fortuitous circumstances, might be produced as follows. Instead of a crooked footpath entering through a gap in a hedge, a rough winding road might be formed, by which it might be supposed the gravel had been carted out of the pit, but which, owing to the lapse of time, had become principally covered with grass; and this might be entered through an old rickety gate; while in the bottom of the pit there might be the remains of some miserable hovels, and a person living in one of them, keeping a cow, and having, in consequence, a hay-rick rudely fenced round, a small stack of faggots for fuel, or, perhaps, an ass and a cart, &c. The reader can easily supply the rest. Both these examples would be fac-simile imitations, which might easily be mistaken

for nature itself; and though they might, and doubtless would, afford pleasure in themselves, and as contrasted with the scenery around them; yet that pleasure could in no respect be considered as resulting from them as works of art; unless we were told that they were artificial creations.

Artistical Imitation of Natural Scenery, or, in other words, natural scenery, imitated according to art, is the legitimate province of landscape-gardening; and it includes two modes of imitating nature: the one the picturesque, or nature in a wild state; and the other the gardenesque, or nature subjected to a certain degree of cultivation, or improvement, suitable to the wants and wishes of man. To design and execute a scene in either of these styles of art, the artist would require to have the eye of a landscape-painter; to a certain extent, the science of an architect and of a botanist; and the knowledge of a horticulturist. Every part of nature, whether rude or refined, may be imitated according to art. For example, the gravel pit would be improved according to art, if foreign trees, shrubs, and plants, even to the grasses, were introduced instead of indigenous ones; and a Swiss cottage, or an architectural cottage of any kind, that would not be recognised as the common cottage of the country, substituted for the hovel. To complete the character of art, the walk should be formed and gravelled at least to such an extent as to prevent its being mistaken for a natural path. Rocky scenery, aquatic scenery, dale or dingle scenery, forest scenery, copse scenery, and open glade scenery, may all be imitated on the same principle; viz. that of substituting foreign for indigenous vegetation, and laying out regular walks. This is sufficient to constitute a *picturesque* imitation of natural scenery.

Where the *gardenesque* style of imitating nature is to be employed, the trees and herbaceous plants must be separated; and, instead of being grouped together as in forest scenery, where two trees, or a tree and a shrub, often appear to spring from the same root, every gardenesque group must consist of trees which do not touch each other, and which only become groups by being as near together as is practicable without touching, and by being apart from larger masses, or from single trees or rows of trees. It is not meant by this, that in the gardenesque the trees composing a group should all be equally distant from one another; for in that case they would not form a whole, which the word group always implies. On the contrary, though all the trees in a gardenesque group ought to be so far separated from each other as not to touch, yet the degrees of separation may be as different as the designer chooses, provided the idea of a group is not lost sight of.

In laying out grounds, or in criticising such as are already

formed by eminent artists, it is necessary always to bear in mind the difference between the gardenesque and the picturesque; that is, between a plantation made merely for picturesque effect, and another made for gardenesque effect. Gardenesque effect in plantations is much too little attended to for the beauty of the trees and shrubs, whether individually or collectively; and picturesque effect is not generally understood by gardeners. In planting, thinning, and pruning, in order to produce the former effect, the beauty of every individual tree and shrub, as a single object, is to be taken into consideration, as well as the beauty of the mass; while in planting, thinning, and pruning, for picturesque effect, the beauty of individual trees and shrubs is of little consequence; because no tree or shrub, in a picturesque plantation or scene, should stand isolated; each should be considered as merely forming part of a group or mass. When planted, the trees and shrubs should be scattered over the ground in the most irregular manner, both in their disposition with reference to their immediate effect as plants, and with reference to their future effect as trees and shrubs. In some places trees should prevail, in others shrubs; in some parts the plantation should be thick, in others it should be thin; two or three trees, or a tree and shrub, ought often to be planted in one hole, and this more especially on lawns, over which trees and shrubs are to be scattered in the picturesque manner. Where, on the contrary, they are to be scattered in the gardenesque manner, every tree and shrub should stand singly; as in the geometrical manner they should stand in regular lines, or in some geometrical figure. In the gardenesque there may be single trees and single shrubs; but there can be no such thing as a single tree in the picturesque. Every tree, in the picturesque style of laying out grounds, must always be grouped with something else, if it should be merely a shrub, a twiner, or a tuft of grass or other plants at its root. In the gardenesque, the beauty of the isolated tree consists in the perfect manner in which it is grown; in the picturesque, the beauty of a tree or shrub, as of every other object in the landscape, consists in its fitness to group with other objects. Now, the fitness of one object to group with another evidently does not consist in the perfection of the form of that object, but rather in that imperfection which requires another object to render it complete. It would be absurd, because it would counteract the end in view, to plant an arboretum on the principle of the picturesque; and on a lawn, with a natural forest in the middle distance, it would be equally absurd to plant trees in the gardenesque manner in the foreground, because, when so planted, they could never harmonise with the trees in the natural forest adjoining.

A piece of natural scenery, imitated according to the prin-

ciples of art, whether in the gardenesque or the picturesque style, would form a very desirable description of public garden; and, if expense were not an object, a considerable number of different scenes, quite distinct, might be formed within one enclosure of from ten to twenty acres. The scenes ought to follow each other on some principle of succession, and that principle, we think, ought to be the geological one; that is, scenes which are found in nature in the same or in allied kinds of surface or soil ought to be placed together: for example, suppose we enter through an arch of masonry to a walk covered with evergreens, and emerge from that into a level meadow; and thence proceed into an undulating valley, through forest glades, on a descending surface to a lake; along its banks to a waterfall amid rocky scenery, tracing the stream through a romantic glen up to rocks and Swiss landscapes; and lastly, ascending a terrace walk terminating in a tower, from which is obtained a panoramic view of the whole. So many scenes, on such a length of walk, can only be obtained, in a small spot, by the license of making one walk pass under another in tunnels; and when this can be done, and mounds raised, much can be accomplished in a very small space.

Imaginary Scenery, formed according to the principles of art, must depend mainly on its architectural features, and on the imitations of ruins, caverns, dislocations in strata, and various effects of nature brought into new combinations by the inventive powers of the artist. In all this there is no attempt to deceive, by making it believed that such things are to be found in any part of the world: there is merely an attempt to please by extraordinary productions.

Geometrical Scenery, to be geometrical, must necessarily be arranged according to art; that is, in mathematical forms, or lines regularly straight, or regularly curved. Every one knows that what are called French and Dutch gardens are in this style; which, indeed, was that of almost all public and private gardens from the earliest times till the commencement of the eighteenth century. Some of the finest examples in Europe are the gardens of the Tuilleries and Luxembourg in Paris, those of Schönbrunn in Vienna, and of Peterhoff near Petersburg. For a limited space in towns, and where a variety of trees and shrubs will not thrive, no description of garden is better adapted for a public promenade than one laid out geometrically.

GARDENS FOR RECREATION AND REFRESHMENT.

Gardens of this class are generally formed by private individuals for their own emolument; nevertheless, there are instances on the Continent, both in France and Germany, of the corporations of towns forming tavern and music gardens, and letting

them to individuals at moderate rents. There is a very interesting garden of this description at Strasburg, which contains a splendid music-room, that serves occasionally as a ball-room, and as a room for holding public meetings. There is also a large orangery, the trees of which are set out on the lawn in the summer season, and surrounded by tables and chairs for company. In the neighbourhood of Berlin, and also in Warsaw, there are, or were formerly, orangeries furnished with tables, seats, &c., in which entertainments of various kinds were given in the evenings, and where refreshments might be obtained at all hours of the day during the winter season, the orangery being kept heated to a proper temperature.

Archery grounds, cricket grounds, bowling greens, and grounds for playing at golf, skittles, quoits, &c., may be considered as useful establishments, with a view to the health of citizens who pass the day in sedentary occupations. Like fac-simile imitations of nature, they may be executed by labourers under the direction of an architect, with little or no assistance from a landscape-gardener.

GARDENS FOR BURIAL.

Cemeteries are entitled to be considered as gardens, because in almost all ages and countries trees have been planted in them. So generally is this the case on the continent of Europe, that some of the nurserymen (as we have seen in Vol. X. p. 149.) have a list of plants in their catalogues proper for ornamenting graves and churchyards. It seems to us that no mode of burial is so natural as that of being interred among trees; and this also appears to have been the opinion of Abraham, who, when his wife Sarah died, declined the offer made to him of the choice of any of the sepulchres of Heth, but preferred purchasing from them for that purpose "a field, a plot with trees in it;" or, as some commentators say, "with trees bordering it." The proximity of trees to a grave seems to offer a greater security that it shall not be disturbed, than if the grave were made in an open field, or in any place liable to cultivation; and as the idea of the dead being disturbed in the grave is repugnant to the human mind, this, perhaps, may instinctively have led to the practice of burying among trees.

The situation made choice of for a cemetery should be elevated and airy, and the soil deep and dry; because the first two conditions will prevent mephitic vapours from lodging on the surface, and the last two will contribute to secure inhumation and rapid decomposition. The walks in a cemetery, it appears to us, ought to be straight, or, if curvilinear, the curves ought to be few; because there is neither solemnity nor grandeur where there is a great play of outline, and continued variation of

scene. Another reason why the walks should be straight is, that the ground can be used more economically. Every grave or tomb may be considered as either a parallelogram or a square; and there must always be a loss of space in disposing of rectangular figures within a curvilinear figure. Where there is abundance of ground, however, this waste would be no objection, but rather an advantage; because the trees might be planted in the waste places: still we think straight lines desirable for almost every thing connected with a cemetery, as harmonising better with the solemnity of the scene. In short, our opinion decidedly is, that cemeteries and churchyards ought to be laid out in the geometrical style.

The situations where the trees ought to be planted in a cemetery is the next consideration. In general, we think a row along each side of the walks and close to them the best mode. So placed, the roots of the trees can never be disturbed on at least one side, by which means they can never be materially injured by the opening of graves; neither will they occasion any waste of ground by this arrangement. The kinds of trees ought to be such as readily form, by pruning, a clean erect stem, for at least 8 ft. or 10 ft. in height; because a branchy tree clothed from the ground upwards, in such a situation, would encroach on the walks, and also on the ground to be occupied with graves. Another disadvantage of trees clothed from the ground upwards would be, their liability to stagnate the air, and render the place unhealthy. For the same reason, we think shrubs cannot generally be introduced in cemeteries; unless perhaps, as in Munich, and in other parts of Germany, as a plantation round the margin of the ground.

Where ground is abundant, a cemetery might be laid out like a kitchen-garden, with rectangular walks and compartments; the walks having borders of shrubs and flowers, backed by a holly hedge, with standard low trees at regular distances; and the interior, which would be concealed from the walks, might alone be used as a place of burial. But, though this has actually been done in some places on the Continent, we cannot consider it in good taste. There must be a sentiment appropriate to a cemetery; and though that sentiment is not inconsistent with the appearance of trees, shrubs, and flowers, yet it appears to us to be totally so with the same studied display of them which is made in a kitchen or flower garden. Neither do we think it in good taste to lay out and plant a cemetery exactly as a botanic garden should be laid out and planted; for this also is to confound things that are different. In general, nothing should be done that will interfere with the idea of solemnity and consecration to the dead; unless it be wished that the idea of a cemetery

should be rendered subordinate to that of a botanic garden or an arboretum.

All these observations will apply with equal force to *churchyards*. The best situation for trees, in these burial grounds, is immediately surrounding the boundary fence, and along the sides of the main walk or walks to the church entrance. The trees should always be of low growth, so as not to interfere with the architectural effect of the church, when they are seen at a distance in connexion with it. Evergreen trees of great durability, such as the holly, the yew, the cypress, the arbor vitæ, and the red cedar, appear preferable, from their association with the ideas of solemnity and perpetuity, both in the lasting nature of their foliage, and in their longevity.

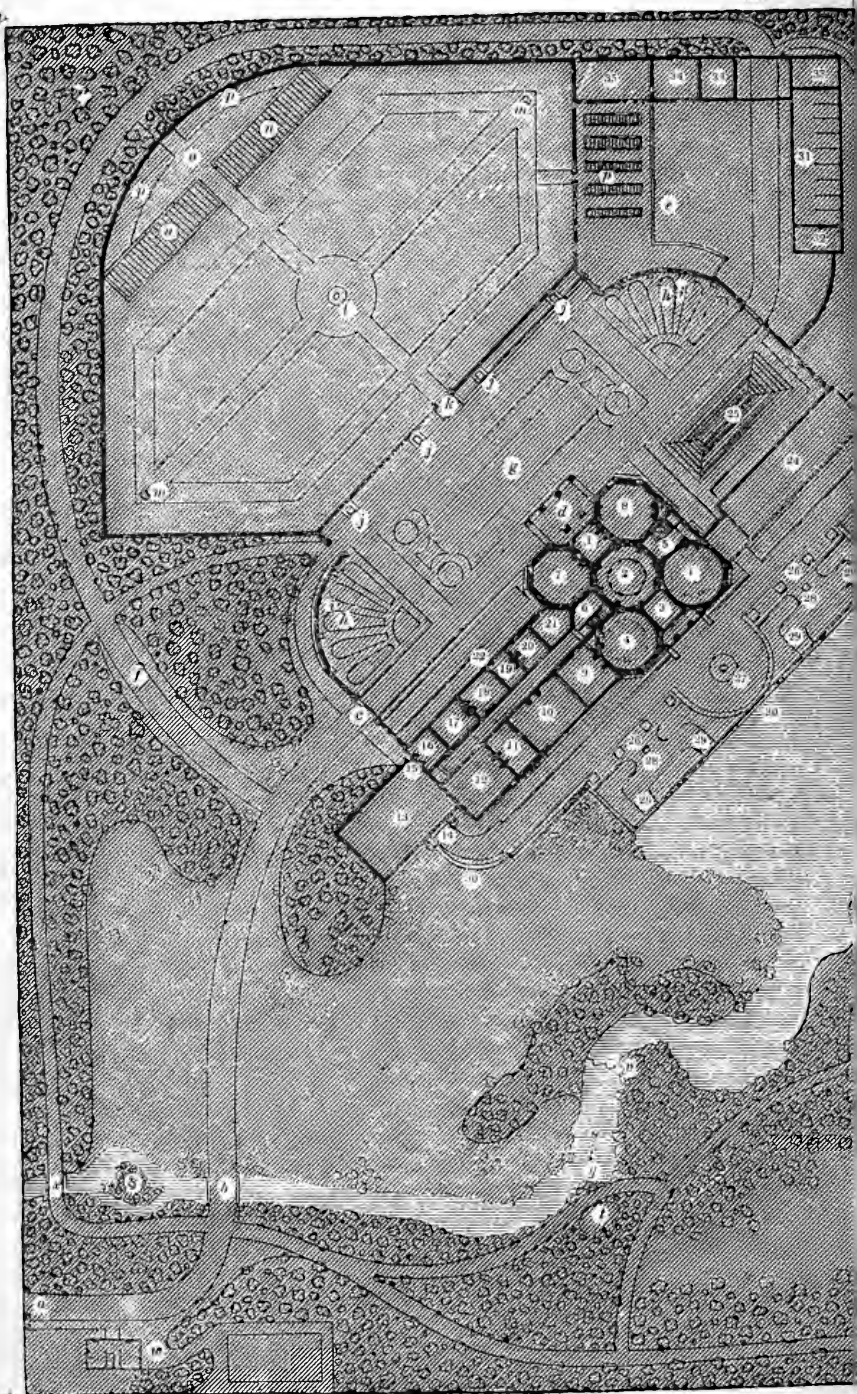
The most melancholy circumstance connected with cemeteries, churchyards, and depositories for the dead of every kind, is, to see them neglected by the living; the fence broken down, the gate off its hinges, the tombs out of repair, and the surface of the ground covered with rampant weeds and rank grass. For this reason, nothing has a better effect in burial grounds of every kind, than to keep the turf in every part of them as closely mown as the high-kept lawn of a mansion.

ART. IV. *Plan for laying out the Grounds of a Suburban Villa of Nine Acres; including the Ground Plan of the principal Floor of the House, and the Plans of the different Outbuildings.* By RICHARD VARDEN, Esq., Architect and Landscape-Gardener.

THIS villa is supposed to be situated in the neighbourhood of a town, and to be occupied as the residence of a wealthy merchant or banker throughout the year. The surface of the ground is supposed to be flat or nearly so, and so surrounded by buildings, that no desirable views can be obtained beyond the boundary fence. A small stream of water is supposed to run through the grounds, and the soil to be loamy.

The details of the grounds (*fig. 99.*) are as follows:—

- | | |
|--|--|
| <i>a</i> , Entrance gate to the main approach. | <i>g</i> , Grass-plot with flower-beds. |
| <i>b</i> , Bridge over the river, from which are seen the rock (<i>y</i>) on the right hand, and the wooded islands, &c., on the left. | <i>h</i> , Parterres in the form of fans. |
| <i>c</i> , Open arch, through which carriages drive to the open portico (<i>d</i>) over the main entrance to the house. | <i>i</i> , Vases on pedestals placed against the parapet wall. |
| <i>e</i> , Stable-yard, in which carriages turn before they come back to take up their company. | <i>j</i> , Statues on detached pedestals. |
| <i>f</i> , Back road to the kitchen-garden and stable-yard. | <i>k</i> , Open archway to the kitchen-garden. |
| | <i>l</i> , Fountain and basin in the centre of the kitchen-garden. |
| | <i>m</i> , Statues. |
| | <i>n</i> , Forcing-houses. |
| | <i>o</i> , Sheds for pots, mushrooms, &c. |
| | <i>p</i> , Melon ground, and place for composts, &c. |





- q, Temple of Flora, placed on a raised terrace, with a statue in the centre, and a flower-garden in front on a lower level. Behind the temple is
 r, A walk covered with grass, with creepers underneath, so as to be shady in summer, and dry in winter. At each end are statues.
 s, Seats.
 t, Temples or covered seats.
- u, Fishing-house with a grotto beneath.
 v, Waterfall.
 w, Gatekeeper's lodge, with a flower-garden on the left, and a kitchen-garden on the right.
 x, Rustic foot-bridge of wood.
 y, Rock, which, with the temple, is seen from the approach road.
 z, Iron foot-bridge.
 &, Wooded islands. On the lake island is a swan-house.

The following are the details of the principal floor of the house, and attached offices : —

- | | | |
|--|----------------------|--|
| 1, Vestibule. | 2, Hall. | 25, Raised stand of flagstone, for green-house plants during summer, and hardy evergreens in pots during winter. |
| 3, Anteroom. | | 26, Rows of orange trees in boxes during summer. |
| 4, Drawingrooms. | | 27, Fountain. |
| 5, Principal stairs. | | 28, Statues. |
| 6, Servants' stairs. | | 29, Seats. |
| 7, Dining-room. | 8, Library. | 30, Terrace wall with vases on the parapet. |
| 9, Butler's pantry. | 10, Kitchen. | 31, Nine-stalled stable. |
| 11, Scullery. | 12, Servants' hall. | 32, Corn-room. |
| 13, Yard. | 14, Alcove and seat. | 33, Harness-room. |
| 15, Servants' entrance. | | 34, Coach-houses. |
| 16, Business room. | 17, Pantry. | 35, Tool-house, and common lumber shed. |
| 18, Store-room. | 19, Still-room. | |
| 20, Housekeeper's room. | | |
| 21, Still-room. | 22, Area. | |
| 23, Small green-house, forming lobby to (24) Conservatory. | | |

The planting in the grounds of the villa I propose to have done in what you call the picturesque manner; that is, to have the trees and shrubs and flowers all planted together and irregularly, and to let them grow up, and the stronger kill or overcome the weaker, as in natural forests. I propose to mow the grass in the open spaces, but not to hoe or dig among the shrubs. I prefer this wild style, in the grounds of a town villa, to the gardenesque, because it produces a greater contrast to the scenery around.

With regard to the kinds of trees, I shall exclude all rapidly growing bulky sorts, such as poplars, willows, elms, the platanus, the lime, and such like; and plant only trees that will soon attain the height of 20 ft. or 30 ft., and never grow higher than 40 ft. Among these will be many thorns, wild apples, wild pears, wild plums, and other flowering trees; and acers, and other trees and shrubs that flower early in spring and late in autumn. I shall have whole masses of your favourite autumnal bush or small tree, *Hamamelis virginica*, for the sake of its brilliant masses of yellow blossoms in October, November, and December; and I shall have other thickets of *Cornus mas* to succeed the *Hamamelis*: this will carry me to the acers, and next will come the wild plums, cherries, and crabs; after these

the thorns and laburnums, the snowdrop tree, and, lastly, the magnolias and the catalpa.

With respect to evergreens, I shall make the prevalent shrub the laurustinus; and the prevalent low trees, the holly and the box. In one place, the pines will be the prevailing evergreens, and next to them the firs and cedars, and the ilexes. Lucombe oaks and Portugal laurels will complete the masses.

I shall observe no other order in planting than that one genus shall always prevail in one place, and that the same genus shall never occur a second time in any quantity. I consider this to be a very good practical arrangement, though not a scientific one.

The principal expense of keeping the grounds of such a villa as this will be the mowing; but that expense might be lessened by wire fences and sheep.

Worcester, Aug. 1835.

REVIEWS.

ART. I. *Horticulture*. An Article drawn up for the "Encyclopædia Britannica." 4to, pp. 630. to 691. Vol. XI. of the Encyclopædia. Edinburgh.

THIS article is attributed to Patrick Neill, Esq., LL.D., secretary to the Caledonian Horticultural Society, the author of a similar article in the *Edinburgh Encyclopædia*. Both articles are drawn up in the most judicious manner, and evince a thorough knowledge of the subject, and sound discrimination as to the best practices for selection and recommendation. The arrangement of the article *Horticulture* in the *Edinburgh Encyclopædia*, or, as it is more commonly called, *Brewster's Encyclopædia*, was quite original at the time it appeared, and the entire merit of it belongs to Dr. Neill. We adopted it in the department which treats of horticulture in our *Encyclopædia of Gardening*, as we did also the manner of treating of each particular vegetable; viz. geographically, historically, and, as it may be called, biographically; a practice as old as Pliny, but greatly improved on by Miller and also by Dr. Neill.

The article before us is particularly rich in its illustrations, for most of which Dr. Neill handsomely acknowledges his obligations to our correspondent Mr. Charles H. J. Smith, "a young but very promising garden architect." Mr. Smith's plans are very beautifully drawn and engraved, and the greater number of them are more or less original in design. The principle of heating by hot water is variously modified and applied by Mr. Smith; and it must be a great advantage to the possessors of hot-houses in

Scotland to have access to an artist who understands the subject so thoroughly as Mr. Smith appears to do.

This article, though on comparatively an humble subject, must be considered as highly creditable to the *Encyclopædia Britannica*, which, of all the general encyclopædias that have appeared, is, in our opinion, decidedly the best. Its arrangement is inferior to that of the *Encyclopædia Metropolitana*, but its execution is better; and its pages are neither over-occupied with the biographies of clergymen, like those of some *Cyclopædias*, nor with classical biography, geography, and history, like those of the *Penny Cyclopædia*, more especially in the early parts of the latter work.

ART. II. *A Practical Treatise on the Cultivation of the Vine on open Walls.* By CLEMENT HOARE. 8vo. Chichester, 1835.

WE have perused this little work with much pleasure, and feel convinced that, were it extensively circulated, and its principles acted upon, it would be the means of increasing the domestic comforts of the labouring population in the southern counties of England. But, although one of Mr. Hoare's principal objects has been to show to the labourer the benefit he would derive from the proper cultivation of the vine, even upon the walls of his own cottage, there is also much in the work worthy of the careful perusal of the practical and scientific gardener. From a careful inspection of the vines grown upon open walls, Mr. Hoare gives it as his decided opinion, that 5 lb. of grapes might be obtained for every one which is now produced. He attributes the want of success of cultivators, generally, chiefly to their ignorance of a proper system of pruning; and argues that, from their leaving too much bearing wood, the vines show a greater quantity of fruit than their maturing powers are able to bring to perfection; while, the attempt to do so bringing on a constitutional weakness, the final result is, a wall covered with naked rods, with a few slender twigs and diminutive bunches at the extremities. Anxious to ascertain the exact quantity of fruit which any vine was able to bring to perfection without injuring itself, Mr. Hoare commenced a series of experiments in 1825; and, after carefully registering the results for each successive year, up to 1830, he found that the circumference of the stem of a plant, measured just above the ground, formed a true index of its vital powers, unless these had previously become exhausted by over-cropping, &c.; and, upon these facts of practice and experiment, he formed a scale of the greatest quantity of fruit which any vine can perfectly mature: from which scale it will be seen, that, if $2\frac{1}{2}$ in. be deducted from the circumference

of any vine, its capability will be equal to the maturation of 10 lb. of grapes for every remaining inch of girt; thus, for a vine 3 in. in circumference allow 5 lb., for one of 5 in. 25 lb., and one of 10 in. 75 lb. (p. 34.), and so on. No vine is allowed to bear before the stem is 3 in. in girt. (p. 35.) We entirely coincide with Mr. Hoare as to the impropriety of allowing young vines to bear prematurely, as we know of instances in which it has been attended with the worst consequences. In pruning, as many buds are left as are supposed necessary for the production of the requisite quantity of fruit, reckoning each bud as equal to the production of half a pound's weight of fruit (p. 38.), the two lowest buds on each shoot not being included; and this plan generally leaves a sufficiency for meeting all contingencies, and for admitting of the thinning of the bunches, if there should be too many, in summer.

The chapters on pruning and training will be read with much interest. Mr. Hoare, after giving a description of the ascent of the sap, and of its final elaboration in the leaves, shows that the less quantity of old wood there is betwixt the leaves and the root, the greater will be the circumference of the stem, and, consequently, the greater its capability of maturing fruit. He contends that in spur pruning, from the great quantity of elaborated sap which is necessary to form the new concentric layer upon the old stems, comparatively little can be left to enter the roots, and that, in fact, "naked branches are consumers, not producers, or, in other words, drones in the hive." He particularly objects to the system of spur pruning upon open walls, as the buds left by it, viz. those at the base of the shoot to the extent of two or three, are never sufficiently matured, the best buds being those which are produced from the beginning of May to the middle of July; and also from the great trouble necessary to manage the buds, and the many cuts that are required in pruning the vine, &c. He gives a decided preference to the long rod system, "which recommends itself by its simplicity; by the old wood of the vine being annually got rid of; by the small number of wounds inflicted; by the handsome appearance of the vine; and by the great ease with which it is managed." He allows that the spur system may be successfully adopted under glass; because, the sap being more highly elaborated, fruit will be produced from the buds seated at the base of the shoots. Little as we know of the cultivation of the vine upon the open wall, we should be inclined to adopt Mr. Hoare's opinion, for this simple reason; that, in the open air, the same genial warmth which causes the expanding of the buds likewise sets the sap in motion at the roots; and that, therefore, there is no occasion for an old stem, which, however, we conceive to be of much importance in a forcing-house, by acting as a reservoir to the expanding shoots,

before the roots have been called into action. In training, the shoots are bent in a serpentine manner, more or less, according to their strength. Great care is taken of the young shoots designed for future bearers, 5 in. being left free on each side of them, in order that their leaves may be fully exposed to the light, and may have room to expand freely. Besides properly thinning the fruit, Mr. Hoare takes great care that every bunch should be shaded by the thickness of one leaf, so that no part of it be exposed directly to the sun; which we conceive to be of great importance, so far as the swelling and colouring of the berries are concerned, although it would appear that many think differently.

In the fifteen chapters into which the work is divided, there is much that is interesting, besides what we have incidentally alluded to, which we shall content ourselves with naming.

1. Introduction. 2. Observations on the present method of cultivating the vine upon open walls. 3. On the capability and extent of the fruit-bearing powers of the vine. 4. On aspect. 5. On soil; the importance of having it of an open texture. 6. On manure; the propriety of incorporating with the soil that kind of manure which is most nutritious and most lasting. 7. On the construction of walls. 8. On the propagation of vines. 9. On the pruning of vines. 10. On the training of vines. 11. On the management of the vine during the first five years of its growth. 12. Weekly calendarial index. 13. Autumnal pruning. 15. Descriptive catalogue of grapes best adapted for the open wall. We have no fault to find, but with the price of the volume, 7s. 6d., which is too much for a work of 164 pages, and which places it entirely beyond the reach of the cottager. We trust, however, that gentlemen fond of such pursuits will aid the author's views, by disseminating a few copies amongst their humbler tenantry.—*R. F.*

The above review is by a scientific gardener, and a most excellent grower of grapes. We considered it advisable to have the testimony of such a gardener to the value of Mr. Hoare's book; because a "practical man" in his neighbourhood spoke to us slightly of it, alleging, forsooth, that Mr. Hoare, being a schoolmaster, was consequently not likely to know much about growing grapes; in short, that he was not one of the "practical men." Our opinion is, that Mr. Hoare has thrown more light on the subject of vine culture than any British gardener who has written on the subject; and, as far as we are aware, more than any French or German gardener. The nearest approach to Mr. Hoare's system is that of Thomery, as described by Lelieur. (See *Encyc. of Gard.*, ed. 1835, § 5257.) There is far more real knowledge of the nature of the vine shown in Mr. Hoare's book than in Mr. Speechly's; and, for our own part, we frankly

confess that we have learned more from it, than we have done from all the other books on the vine that we have read put together. We recommend every practical gardener to get the book immediately, lest his master or mistress, or some of his apprentices or journeymen, get it before him. If they do, there are not many vine growers who might not have some rather hard questions put to them on Mr. Hoare's authority.—*Cond.*

MISCELLANEOUS INTELLIGENCE.

ART. I. General Notices.

SCIENTIFIC Fecundation.—Bradley, speaking of this subject, says that, on the first opening of his tulips, he took out all the anthers of the stamens before the farina was ready to be scattered; and thus, to use his own expression, castrated the tulips, preparatory to impregnating the stigmas with the farina of other tulips. In like manner, he says, the blossoms of any other plant may be castrated, and cross-fecundated. (*New Improvement of Planting and Gardening, Philosophical and Practical*, p. 14, 15.) It is generally considered that this practice of cross-fecundation is quite new, and was first employed by Mr. Knight; but a careful perusal of the works of Bradley and Agricola will show that scarcely anything new has been produced, during the present century, that was not known and practised in the preceding one, perhaps earlier.—*Cond.*

A simple Instrument for indicating the Changes of the Weather.—I send you an account of a barometer, which, as far as I have yet been able to judge, appears very correctly to indicate the changes of the weather. It consists of a long-necked bottle reversed in a jar of water; the bottom of which being covered with quicksilver, the water will rise or fall in the neck of the bottle according to the changes of the weather. The annexed sketch (fig. 100.) will, perhaps, enable you better to understand the above description:—*a*, empty bottle; *b*, jar filled with water to *d*; *c*, index marked upon the neck of the bottle, in which the water rises and falls; *e*, quicksilver sufficient to cover the bottom of the jar. Barometers upon this construction are made by Mr. Naylor, Glass Manufacturer, Vere Street, Oxford Street. I need hardly state that they act by the pressure of the atmosphere upon the surface of the water, which, as the pressure varies, causes the water to vary in its height in the tube; but, as the volume of air in the inverted vessel will also be acted on by the temperature of the atmosphere, barometers of this kind cannot be so accurate as the common mercurial barometers.—*W. L. G. London, September 23. 1835.*



ART. II. Foreign Notices.

FRANCE.

JARDIN de Fromont.—We understand, from a gentleman who has lately visited this establishment, that it is at present in a very flourishing condition; and that, considered as a manufactory of plants of the more rare and valuable

kinds, it is without a rival in the neighbourhood of Paris. We have seen the price current for this nursery for 1834 and 1835, in eight small 8vo pages, and we are astonished at the variety of articles enumerated, and at the low price of many of them. For example, *Acácia Julibrissin*, one year from the seed, at 6 francs per 100; *Ailantus glandulosa* at the same price; *Córnus flórida*, 15 francs per 100; *Fráxinus americana* epíptera, 12 francs per 100; the common ash, three years old, and transplanted, 15 francs per 1000; *F. lentiscifolia*, three years old, transplanted, 8 francs per 100; *Fráxinus O'rnus*, 5 francs per 100, and so on; *Pinus Larício*, two years old, 18 francs per 100; and the different varieties of *Pinus sylvestris*, such as de Riga, de Hagueneau, rígida, rùbra, &c., 5 francs per 100. The American oaks are equally cheap; *Quércus tinctória*, three years old, is only 10 francs the 100. The cheapness of trees and shrubs at this establishment must surely contribute to the spread of arbo-retums, or, at all events, of mixed plantations of foreign trees and plants.

The culture of exotic plants at Fromont is, if possible, still more remarkable than that of hardy trees and shrubs. Besides the price current for 1835, which we have quoted, we have before us another *Bulletin* for camellias for that year; one for roses; one for peat-earth plants; one for green-house and conservatory plants; one for dwarf dahlias; one for azaleas, of which the collection exceeds 150 varieties; and for herbaceous plants; in all eight different *Bulletins*, or *Catalogues*.

ART. III. Domestic Notices.

ENGLAND.

THE Trees of New Zealand. — My junior gardener is gone out with a friend of mine to New Zealand, chiefly for the purpose of collecting plants and seeds for me. I am in hopes of receiving many things which will bear this climate, particularly the forest trees from the hills, which are frequently covered with snow. He will stay there for three years. Although I am quite as mad after the epiphytes as even my friend Bateman, yet I own I would rather obtain a few timber trees which would bear our climate. — *M. March*, 1835.

A Hand Water-Engine, on an entirely new principle, has lately been invented by Mr. Read, the patentee of the best of all our garden syringes. This new invention, of which we expect soon to be able to give an engraving and description, is very little larger than the syringe, but it has a tube added to it, which, being inserted in a pot or bucket full of water, gives the instrument all the powers of a garden engine, with less than half the exertion required for working the latter machine. The power gained is by the condensation of air in a tube or barrel, parallel to that in which the piston works; so that the invention might not unjustly be called Reid's double-barreled syringe. The whole instrument, including the length of the handle, and the tube, which can be screwed on and off, is only 3 ft. long, and the barrel part is but half that length. The price is only 50s. We have seen it at work, and consider that, for all ordinary purposes it will supersede both the garden syringe and the garden engine. — *Cond.*

The Pine and Fir Tribe. — We should like much to see the same enthusiasm for this noble tribe of trees as there now exists for *Orchídeæ*. Why should not a number of landed proprietors join in a small subscription to send out a botanical collector to North and South America, for the exclusive purpose of bringing home seeds of trees likely to prove hardy? This would be the true way to render the *araucarias* abundant in the country. Who knows but these noble trees may one day be as abundant in Britain as cedars of Lebanon? The *Araucária imbricàta* is found to stand the open air quite well in the neighbourhood of Edinburgh; and, as it has stood so well at Kew, Dropmore, Goldworth Arboretum, Spring Grove, &c., it may probably be just as hardy as the common cedar. We repeat our hope, that some spirited gentlemen will join in subscribing (say fifty persons) 10*l.* each per annum, and send

out a collector of tree seeds to the Americas for a year or two. It would even be worth a nurseryman's while to do so, if he were certain that no such association as that we are hinting at would enter into competition with him. We can recommend an admirable person as a collector, a philosopher, a botanist, and a man full of enthusiasm for exploring a new country. — *Cond.*

Acer striatum, the *Striped-barked*, or *Pennsylvanian*, *Maple*. — The finest specimen of this much neglected tree is on a lawn in front of a house near Maidenhead, which, in 1819, was occupied by Mr. Needham. We saw the tree in that year, and, by describing the place to a friend who was passing that way, he procured us the dimensions of it. It was planted in 1814, and is now 16 ft. 6 in. high; about as great a height as it ever attains in this country. Its branches cover a space of 60 ft. in circumference, and its trunk, at 1 ft. from the ground, girths 2 ft. 10 in. Our correspondent has forgotten to mention the name of the seat, which, perhaps, some of our readers can supply. This fine specimen of so singular and so beautiful a tree, and, also, another in Farnham Park, remind us of the injustice done to this species in the arboretum of the Horticultural Society, where it is placed under the drip of another tree, and is altogether a most miserable specimen, not at all likely to tempt a planter, though there are few trees more desirable for a small residence. Had the trees in the Horticultural Society's garden only been placed singly, instead of being huddled together in groups, and never properly thinned or attended to, their beauty, and their value in a scientific point of view, would have been tenfold what they are at present, and what they are ever likely to become. — *Cond.*

Hamamelis virginica. — This tree is now beautifully in flower at Messrs. Loddiges's, and in Thomson's Nursery, Mile End. Its yellow blossoms, with their long fringe-like corollas, at this season of the year, when so few trees and shrubs are in flower, are most ornamental: its leaves die off of a rich deep yellow or orange. It is a pity to see such a tree so much neglected. Mr. Macnab, jun., whose interesting journey in North America we noticed in p. 620., and shall have occasion to recur to, informs us that it attains the height of 15 ft. or 20 ft. in its native situations in America; and he brought home a piece of the trunk of one tree, for a gentleman (Mr. Nicol of Edinburgh) who is now making observations on different sorts of timber, between 5 in. and 6 in. in diameter. — *Cond.*

Maclura aurantiaca. — We would strongly recommend the planting of this tree, as likely to be highly ornamental when it attains a fruit-bearing age. The male and female should, if possible, be planted together; but, when this cannot be conveniently done, either sex can be planted; and when the tree gets large, it may be trained so as to have two main limbs, and on one of these, the sex wanted may be grafted. From a fruit kindly sent us by Dr. Mease, we took out the seeds and distributed them, and young plants have been raised from the seeds, both by M. Vilmorin of Paris, and by Mr. Gordon, the foreman of the arboretum of the garden of the London Horticultural Society, and at Mr. Dennis's. In a letter from Philadelphia, which will be found in our succeeding volume, the writer expresses his conviction that the tree will ripen its fruit in the south of England; and of this we have no doubt. — *Cond.*

The Carambola [Averrhoa *Carambola*, from Ceylon in 1733] has fruited, for the first time in Britain, in the stove of Mr. Bateman of Knypersley, near Congleton; a gentleman distinguished for his zeal, liberality, and success in introducing and cultivating tropical epiphytes. Mr. P. N. Don, the intelligent gardener at Knypersley, mentions that, "during the last autumn (1834), the tree fruited in great abundance." The fruit is of the size and shape of a duck egg, but with angles on the sides. It "was used by the family for tarts, and also for preserves, and was allowed, by excellent judges, to be superior, for pleasant flavour, to any thing they had ever tasted." — *P. N. July, 1835.*

Exotics in the Isle of Anglesea. — Having been at Baronhill, in the Isle of Anglesea, the other day, I was astonished to see fine specimens of myrtles, some of them 18 ft. high, growing out of doors, which had never been pro-

tected ; also the *Aloýsia citriodóra*, also growing in the open air with wonderful vigour ; but, what took my attention most (what I dare say will occasion you a little surprise) was, that there were two trees of *Edwárdsia chrysophýlla*, growing as standards in the kitchen-garden, the dimensions of which were as follows : — girt, 2 ft. ; height, 20 ft. ; diameter of the top, 18 ft. The soil is a light loam, with a limestone bottom. I only mention this to show you the humidity and mildness of the climate in that part of Wales. — *Thomas Forrest. Kinnoul Park, Aug. 26.*

The Oleander grows luxuriantly, without any sort of protection, in the gardens at Sketty Hall, near Swansea, the seat of L. W. Dillwyn, Esq., M. P. It flowered freely, for the first time, this summer ; and it still makes a brilliant appearance. Mr. Dillwyn, who is a skilful botanist, and very fond of arboriculture, has also a remarkably fine variety of *Cratægus Crús-gállí*, which is nearly evergreen. — *W. L. Swansea, Sept. 20. 1835.*

Chenopodium Quinoa. — I had a large piece of ground planted with the quinoa this year ; and, after the plants were nearly 2 ft. high, they were burnt up with the sun, though constantly watered, except four or five, from which I hope to get plenty of seed. I have four plants of the black quinoa, which are not at all injured by the sun, and are already nearly 5 ft. high, and very much branched ; they certainly belong to a distinct species. — *A. Bourke Lambert. Boyton House, Sept. 4. 1835.*

The Agave americana, or *Great American Aloe*, was, during part of August and September, in flower at Bute House, Old Brompton. The plant was brought thither from South Carolina, in 1760, by the gentlemen who then owned the property. The stem of the plant grew 20 ft. within seven weeks, and produced twenty bunches of yellow flowers, all near the top. These flowers are so prolific in honey, that it actually drops from them. The stem, where it proceeds from the plant, is about 6 in. in-diameter, and gradually diminishes to about half that size where the flowers commence ; viz. about 17 ft. from the ground. (*New Monthly Magazine.*)

There is a *Hydrangea* growing in the open ground at Tringwainton, near Penzance, which is 45 ft. in circumference, 8 ft. in height, and had above 1300 flowers on it last year. There are some hundreds of hydrangeas in the plantations at Tringwainton, which have all sprung from this plant. — *John Harvey. Penzance, October 29. 1835.*

A Tree Dahlia. — In the beginning of August (1835) I went to Liverpool. At the old Botanic Garden there I saw an arborescent dahlia growing : it is a cutting, resembling a middle-sized trunk, or small stem, of an elder birch, as thick as one's leg, and fully as woody as the elder. The plant is said to grow 40 ft. high in Mexico. It was throwing out leaves very like those of our herbaceous species. Several plants of *Cactus* (or *Cereus*) *senilis* were received by the same package, much resembling a head hung with long grey hairs. — *P. N. Edinburgh, September, 1835.*

A Strawberry was gathered, a few days ago, in a garden near Worcester, which measured $8\frac{1}{2}$ in. in circumference. (*The Bury and Norwich Post, August 5. 1835.*)

The heaviest Gooseberries for 1835. — I send below a list of the heaviest gooseberries for the year 1835 ; but you will observe that they are lighter this year than they have been for the last ten years, owing to the very dry season. There are also fewer seedlings : only one red, one yellow, and two white seedlings are advertised this year ; and this is also owing to the dryness of the summer, as many other seedlings must stand another season, to judge fairly of their merits, before they are offered for sale. The following are the names of the heaviest gooseberries for 1835 : —

Red. Wonderful, 24 dwt. ; Companion, 23 dwt. 2 gr. ; Lion's Provider, 22 dwt. 6 gr. ; Lion, 22 dwt. — *Yellow.* Leader, 23 dwt. 12 gr. ; Gunner, 21 dwt. 10 gr. ; Sovereign, 20 dwt. 20 gr. ; Two to One, 19 dwt. 22 gr. — *Green.* Thumper, 20 dwt. 8 gr. ; Peacock, 20 dwt. 6 gr. ; Providence, 20 dwt. ; Lord Crew, 19 dwt. 20 gr. — *White.* Eagle, 21 dwt. ; Ostrich, 20 dwt. 12 gr. ;

Fleur de Lis, 20 dwt. 12 gr.; Lily of the Valley, 20 dwt. 11 gr. — *M. Saul*. Sulyard Street, Lancaster, October 24. 1835.

A Pearl Onion is mentioned, in the article "Horticulture" in the *Encyclopædia Britannica*, vol. ix. p. 671., as of recent introduction, and little known. It is said to produce clusters of little bulbs at the root; the bulbs having a fine white colour, like the silver-skinned onion, and being very fit for pickling. Mr. George Don considers it a distinct species, the *Allium Hållerii* of his *Monograph*.

Trifolium incarnatum. — The cultivation of this plant is, we are glad to hear, spreading rapidly; and it is in some parts of the country very generally taking the place of tares, as it produces a much greater quantity of food, and does not require much more than a tenth of the labour bestowed on preparing the ground and sowing it. It also comes in a fortnight earlier. — *Cond.*

The London Dairies. — In the last edition of our *Encyclopædia of Agriculture* we gave, at considerable length, an account (which, by the by, was copied into the *British Farmer's Magazine*, without acknowledgement, and subsequently into the *Farmer's Series of the Useful Knowledge Society*, &c.), of some of the greatest dairy establishments in the neighbourhood of London, from personal observation; but we were not aware at that time that there existed dairies for the poor, in dark lanes, where the cows are penned up without either light or ventilation, and without being taken out for exercise. The following remarks have been sent us on the subject by Mr. Whitlaw, who deserves credit for having directed public attention to the subject. We insert them, to impress upon gardeners and others the immense importance of change of air to health. We are persuaded that there is not one head gardener in ten that is aware of this importance, otherwise they would not require their apprentices and journeymen to sleep in the miserable damp holes in back sheds, and other ill-ventilated places, which they now do.

"Milk, being a direct separation from the blood of the animal, necessarily carries along with it all the volatile, and much of the essential, oils contained in the food. How important, therefore, that the food of the animal should be carefully selected! Every medical man is aware of the benefit derived from the use of a milk diet, in the cure of disease; but to recommend the London milk to a delicate patient, would be a prescription that would vitiate every secretion, disease every organ of the body, and probably destroy the patient's life! That a change ought to be effected in the management of our London dairies, is an assertion which cannot be disputed; but how the evil is to be remedied I know not, unless the disgusting system is exposed and laid open in all its loathsome details.

"Public attention may then be directed to the subject, and public enquiry instituted. When we consider the situation generally chosen for a London dairy, namely, the narrow by-lanes, swarming with the poorest of the people, where offal, and rubbish of every description, are left to rot, and contaminate the atmosphere: in some dark hovels in these districts, you will find the dairy, and the poor animals, penned up from one month to another, with scarce room enough to extend their palsied limbs; with light enough to make darkness visible; without exercise, and without ventilation (there being seldom any other opening than that of the door-way, which, as a matter of necessity, is closed during the night). Can it be a subject of wonder, that the cows are constantly labouring under fever, and dying frequently of typhus? The atmosphere is so carbonised as to be rendered almost irrespirable. The ill effects of all this is but too evident in the wretched appearance of the poor animals. Emaciated almost to a state of atrophy, the respiration feeble and exhausted, the eyes dull and withered, hide-bound, and covered with vermin and disease, nothing in the shape of existence can present a more melancholy spectacle of utter wretchedness. And, lastly, when we consider the kind and quality of the food on which the dairy cows in London are fed, we shall cease to wonder at the great mortality that annually takes place among them. Four fifths of their daily sustenance consist of grains, or the refuse of the mash

from brewhouses and distilleries, which is purchased at a cheap rate, and mixed up with salt, which produces intolerable thirst ; and, water being given *ad libitum*, this is found to increase prodigiously the quantity of milk : but a more unwholesome innutritious article of food could scarcely have been substituted for natural pasture. After the process of malting, little more than the husk remains, with a small portion of volatile spirit, which happily keeps the animal in a half-slumbering state of semi-intoxication. In the course of a few months, the liver enlarges to an enormous size, scirrhusity ensues, the blood-vessels and other organs of the body become involved in the general wreck, and the production of milk is at an end. Thus, at the end of twelve months, the cow is no longer of any service to her keeper. She is now turned over to the slaughter-house, and, from the hands of the butcher, to regale the appetites of the ‘highly-favoured inhabitants of London.’” (*Charles Whitlaw, in a Letter to Sir John Sinclair, Bart.*)

SCOTLAND.

Pittósporum Tobira, and *Acácia armata* have stood the two last winters at Airthrey Castle, near Stirling, the seat of the Right Hon. Lord Abercromby, as standards, without the slightest protection. The first is now between 4 ft. and 5 ft. high, and the second nearly 4 ft. high. The common myrtle, planted against the house of Mr. Cathie, the gardener, has attained the height of $7\frac{1}{2}$ ft. : it has stood out several years with a very slight protection during severe frost, and flowers freely every year. There are a great many fine trees and shrubs at Airthrey, the dimensions of all of which we have received in a very ample Return Paper kindly prepared for us by Mr. Cathie, and of which due use will be made in the *Arboretum Britannicum*.

Threshing-Machines driven by Steam are increasing in use rapidly among the farmeries in Fifeshire. No fewer than thirty have been lately erected, a decided proof of the increasing intelligence and wealth of the farmers. The next step will be to steam ploughs, or, at all events, to steam cultivators (we mean to such instruments as Finlayson’s harrow), and, probably, to steam reaping-machines. — *Cond.*

IRELAND.

Pakenham Hall, the seat of the Earl of Longford, in the county of Westmeath, I was much pleased with ; and I was glad to hear from the very intelligent gardener there, Mr. George, that he had begun a correspondence with your Magazine. Among other improvements at Pakenham, which have been suspended by the lamented death of the late earl, was the formation of a quercetum, if I may coin such a word, containing all the species of hardy oaks which could be procured. I regret to say, however, that, owing to the depredations of rabbits, and other causes, they are not succeeding so well as could be wished. A few of them appeared to me to be incorrectly named, probably having only the names sent with them from a nursery, which we know are often very far from correct.

Among the pines is a most beautiful specimen of *Abies Clanbrasiliana*, certainly the finest I ever saw. Many other rare trees and shrubs are scattered through the pleasure-grounds : I recollect, particularly, a thriving plant of *Arbutus* [*Pernettia*] *mucronata*, with ripe fruit.

Many improvements have been made within the last few years, under Mr. George’s directions ; amongst which may be named the converting of a useless swamp into an American garden. In this, magnolias, and many other American trees and shrubs, grow most luxuriantly ; but there appears something in the peat of that neighbourhood uncongenial to azaleas, &c. Of these there is a fine collection ; but, although only two or three years planted, they are already getting scrubby and overgrown with lichens.

Mr. George informed me that, about two years since, he planted out above a hundred acacias, principally *A. dealbata*, and *A. verticillata*, but that only two of the number survived the winter, or, at least, escaped being killed to the

ground. One or two other New Holland plants, as a composite plant resembling a shrubby aster, and another shrub, apparently pomaderris, are thriving well in the open air.

The kitchen-garden appears in beautiful order : but that is a subject in which I take but little interest. In the conservatory are some splendid fuchsias, and other plants, but nothing particularly rare or new. — *W. C. Clapham Road, September 29. 1835.*

The Botanic Garden at Belfast, under the care of the curator, Mr. Campbell, may, for excellent culture and high order in keeping, vie with any in these islands. The number of half-hardy exotics which not only stand the open air, but flower freely in this garden, is very considerable; and I have no doubt, in the course of a year or two after the garden is completed, and all the hot-houses built, that Mr. Campbell will have leisure to send you a list of them. As I was in great haste to reach Dublin in time for the Association, I had no time to take down names. I saw your favourite *Wistaria*, which they name, like you, *Consequana*; the celebrated white-flowering Irish heath (*Menzièsia polifolia álba*) from the mountains of Cunnemara, and not to be found elsewhere [a specimen of this was sent us by Mr. John Smith of Lismore, August 31.]; numbers of fuchsias, calceolarias, petunias, &c. — *J. D. Liverpool, September, 1835.*

A cut-leaved Variety of the Common Oak is not unfrequent in British nurseries. There is a specimen in Taylor's Nursery at Preston; and, in 1831, when we were in Dumfries, there were scores of plants of it in one nursery, which had come up in that form from seed, as the eagle's claw maple (*Acer platanoides laciniatum*) does very frequently from seed of *A. platanoides*. The acorns, in the case of the Dumfries nursery, were taken from a tree which had sported in several parts of its branches, so that raising from seed is only a test of species under certain circumstances. Mr. Fenessey of the Waterford Nursery brought us lately some branches of a very beautiful lacinated variety of oak, now growing in his nursery, which he thinks different from any other. It was raised from seed, by Mr. Fenessey, about fifteen years ago. The tree is about 15 ft. high, with erect fastigiated branches, thickly covered with pendulous foliage; and it is very hardy. — *Cond.*

Pinus Pinaster, it was stated by Mr. Mackay of the Trinity College Garden, at the meeting of the British Association, in August, 1835, is supposed to have formerly been abundant in the south of Ireland. (*Ed. Phil. Journ.*, xix. 401.)

Pinus sylvestris is found in bogs in Ireland, in three layers or strata, with a stratum of peat between each layer of from 3 ft. to 5 ft. in depth. In Scotland the bogs also contain three distinct layers of trees; "the first layer a foot from the surface, quite fresh; then a layer of peat; next, a layer of wood, slightly carbonised; under that, a layer more carbonised, and slightly bituminised." (*Ibid.*)

Taxus baccata. — At the same meeting, Mr. C. W. Hamilton gave an account of a yew found in a bog in Queen's County, which, through the kindness of Mr. Mackay, we were enabled to notice in our *Arboretum Britannicum*, p. 106. This yew was found in a bog in Queen's County, and exhibited "annual rings indicating a growth of 545 years. Yet so compact was the wood, or so close the layers, that the diameter of the trunk did not exceed a foot and a half. The growth had been very slow during the last three centuries, for near the exterior there were about 100 rings within the space of one inch. From the size and number of the yews found in Ireland, and the elevated station they take amongst the rocks, where they assume the stunted appearance of a juniper, Mr. Mackay has no doubt of its being a native tree. He exhibited the common and the Florencecourt yew, a beautiful variety, growing like the upright cypress. He added that the seeds of the Irish yew would produce the common tree; but Dr. Graham suggested that, as there might be mules, it would not prove that they were the same species. Mr. Babington stated that another variety had been discovered, in which the horizontal

branches produced only drooping sprays on the under side, and that both sexes of the flowers were detected." (*Ed. Phil. Journ.*, xix. 406.) Mr. Sanderson, on the authority of old Scotch history, stated that "the northern part of Ireland was so much infested by yew trees, that a great emigration of Irish took place in consequence, who, with their families and cattle, went over to settle themselves in Scotland; these yew trees every year destroying their cattle in Ireland." Dr. Litton said, he had tried the age of the celebrated yew tree at Muckross, by De Candolle's test, and found that it nearly agreed with the traditional one. (*Ibid.*)

Melampyrum arvense, Mr. Curtis remarked, would only grow amongst corn, and could never be cultivated from seed. (*Ibid.*)

A Plan for the Formation of a Natural Arrangement of Plants for a Botanic Garden, by Mr. Niven, was read, accompanied by a drawing; and the president, Dr. Allman, laid before the Association "a diagram showing his plan of a natural arrangement of plants." (*Ibid.*, p. 400. 404.) We should be greatly obliged to these gentlemen, if they would communicate to us outlines of their plans, for publication. There is nothing that we know of so well calculated to spread a taste for a knowledge of plants, as to see them grouped together, according to their affinities and exterior appearance; which can alone be effected by the natural system. — *Cond.*

O'lea europæ'a. — The long-leaved Spanish variety of olive is now in full flower on an open south-east wall in my garden: the plant is only about four years and a half old. — *R. Mallet. Dublin, July 23. 1835.*

ART. IV. *Calls at Suburban Gardens.*

HAM HOUSE; *S. Gurney, Esq.* — *Oct. 13.* We had much pleasure in examining the fine old specimens of trees and shrubs at this place, and in seeing the very high order in which it is kept by our namesake, the head gardener, Mr. James Loudon. As a place, that is, as a specimen of rural architecture and landscape-gardening, Ham House has little or nothing to boast of: the grounds are flat, and the trees so thinly sprinkled over them, that, from most points, we can see the whole at once. The great charm of the place is the fine old specimens planted by Dr. Fothergill about the middle of the last century, of all of which we have received the dimensions. We shall only mention one or two trees at present, and refer for the rest to our *Arboretum*. *Crataegus viridis* is here 12 ft. high, and forms a curious scrubby tree: it is not grafted on the common thorn, as a sucker from the root proves. There are several fine specimens of hop hornbeam, from 25 ft. to 40 ft. high. *Acer monspessulanum*, 27 ft. high, is a very handsomely formed tree. *Kölreutèria paniculata* is 37 ft. high; and a most picturesque tree of *Hamamelis virginica*, 25 ft. high. If this tree had not been crowded by others, it would have been the most interesting in these grounds: even as it is, we believe it is the best in the neighbourhood of London; for, as we have elsewhere stated, the hamamelis is too generally neglected by planters. *Fraxinus americana* pan-nòsa has attained the height of 60 ft., with a magnificent columnar trunk of about half that height. After walking round the place, and noting down some full-grown trees, of which we intend to have portraits taken for our *Arboretum*, we entered the very picturesque thatched cottage of Mr. Loudon, and were grieved to find that what was so very pretty without was so very objectionable within. The rooms are small, and so low in the ceiling as to be quite disagreeable to the eye; and, to a person breathing in them for any time, most unwholesome.

We cannot too strongly express our disapprobation of those architects who think more of external effect than of the comfort of the occupant, and actually do not bestow half the care on a cottage for a fellow-creature that

they do on a design for a stable. We throw the entire blame, in all cases of this kind, on the architect, and never on the employer; because, even if the employer were to limit the cost of the cottage to a certain sum, it would be the duty of the architect to curtail the ornamental finishings, rather than the requisite dimensions, of the apartments. Besides, it is the duty of an architect of character rather to refuse giving a design at all, than to give one which he knows to be unfit for a human being to dwell in with health and comfort. A high-minded architect will no more accept employment, where his employer limits him to a sum that will prevent his rendering a dwelling comfortable, than a medical man would consent to administer poison for illegitimate purposes. It is said that, when Bonaparte was obliged to leave a number of his troops ill of the plague at Jaffa, he sent for his chief surgeon, and stated to him that, as these men could not recover, and would, in all probability, fall into the hands of the Turks, he wished to give them opium, to put an end to their miseries. The surgeon refused to administer the drug, stating that it was his business to preserve life, not to destroy it. An architect, in our opinion, ought to act in an analogous manner, whenever he is limited to such a sum as will prevent him from producing a dwelling fit for a human being to live comfortably in.

It may be asked, how it happens that architects fall into this error of limited accommodation and low ceilings, so very generally, in the construction of cottages for the servants of gentlemen. We know the causes well, both from long observation, and from having had some intercourse with architects, both in Scotland and England. First, many architects think low ceilings and small dark rooms essential to the character of a cottage; we suppose, on the same principle that some men of wealth think ignorance essential to servants and common people: secondly, many architects are not at all aware of the importance of a constant supply of fresh air to health: and, thirdly, as almost all architects are sprung from the lower or from the middling class, and aspire (partly from inclination, and partly from the circumstance of, while employed, living on a footing of equality with their employer) to be considered as belonging to the higher class, they feel ashamed to acknowledge their sympathy with the class from which they have sprung, by entering minutely into their wants and wishes. If they did so, they would have to encounter the prejudices of men of wealth, generally, against rendering the labouring classes too comfortable; and thus, according to them, discontented with their condition. To sit at the tables of some of the nobility and gentry, as we have done, and hear the manner in which they talk of the poor, one is not surprised that an architect or an artist, who has sprung from that class, should feel himself a *parvenu* in such society, and should wish to avoid indicating any thing like a sympathy which would stamp him at once as unfit for the company into which he was admitted. Very few artists who mix with the higher classes have the moral courage to act otherwise. The times, however, are improving in these respects: the rich are becoming more humane, in consequence of becoming poorer; and the poor are becoming more intelligent and moral, in consequence of the diffusion of knowledge: and this, by bringing the two extremes nearer to a common level, will, in time, cause the rich to look on the poor in a very different point of view from what they do at present. We wish we could get architects and builders of cottages to enter into our views on this subject, because they have it in their power, most materially, to bring about such a desirable result, as that of the rich and poor being comparatively equalised in the essentials of comfortable existence, in useful intelligence and manners, and wholly equalised in point of moral character. Every really comfortable cottage that is erected is a contribution to this desirable result.

Stratford Green; J. Allcard, Esq. — This is a much smaller place than Mr. Gurney's; but it is a place of intense interest, from its botanical collections. We have no doubt that, in a few years, there will be here one of the best and richest private botanic gardens in the neighbourhood of London. There are already excellent collections of ferns and Orchidæ in the hot-houses, and of

herbaceous plants in the open garden. Mr. Allcard, with sound judgment and elegant taste, has discarded pines, grapes, and melons, in a great measure, from his kitchen-garden, and peaches and other fruits from his garden walls, intending to clothe the latter with half-hardy exotics: in short, to make all his walls conservatory walls. No man who has much taste for plants would ever grow any fruits in the neighbourhood of London, which he can purchase of far better quality, and for much less than he could grow them, in Covent Garden Market. All the choice, and also the culinary, fruits, such as pines, melons, grapes, peaches, pears, apples, plums, &c., can be purchased both cheaper and better than they can be grown; and it is, therefore, only worth while, for a London botanist, to grow gooseberries, strawberries, and such articles as are best when quite fresh. Peas, beans, and all sorts of salads, he ought to grow, and, perhaps, most sorts of kitchen crops for summer use; but turnips, carrots, parsneps, onions, potatoes, and the like, for winter use, can be got in Covent Garden Market, of far superior quality, and cheaper than they can, by any possibility, be grown within ten miles of London. But we are deviating from our trees. We found here a kind of drooping cherry, with black fruit, which is said to be peculiar to the neighbourhood: the trees were brought here, a few years ago, from a distant part of the country. We were much gratified by inspecting, in the flower-garden, one of Nutt's bee-hives, with a handsome architectural casing over it. We are convinced, as we have elsewhere stated, that Mr. Nutt's method of managing bees is decidedly the most scientific and the most profitable that ever has been laid before the public. A swarm was put into this hive in May last, and already 12 lb. of honey have been taken from it. The mode of management is simple and easy, without the least danger of being stung, and without the necessity of destroying a single bee. The mode of feeding is admirable. Taken altogether, we do not know a more interesting kind of care and amusement for a lady of leisure; but the attention required to regulate the temperature of the hive in summer renders it, perhaps, unfit for the majority of cottagers, in their present state. Dr. Ure's thermostat, or Kewley's apparatus, might, no doubt, be applied so as to regulate the temperature to a nicety; and then, we think, this hive would be perfect. The handsome architectural case put over this hive was designed and executed by Mr. Thomas Dalby, architect and builder, Stratford: it cost, we understand, nearly 20*l.*; but, if half a dozen or a dozen were ordered, they might be manufactured for a fourth part of that sum each. The gardener's cottage here is also by Mr. Dalby. Exteriorly, it is one of the handsomest gardeners' houses we have any where seen; and ranks, in this respect, with that of Mr. Wells of Redleaf. Interiorly, it is roomy and commodious: the rooms on the ground floor appear to be 9 ft. high. We do not altogether object to this height, but we should like 10 ft. better; and, indeed, we think it ought to be the minimum height of every apartment destined for a human being to breathe in. The exterior ornaments to this cottage, and the architectural finishings, in the Gothic style, to different doors and other objects near it, and to a cow-shed in the paddock, all by Mr. Dalby, are much to our taste. Not the least of our gratifications at this place was, to find that such an admirable plant cultivator and practical botanist as Mr. Bevis, had met with such a liberal and enlightened amateur as Mr. Allcard, who is enthusiastically fond of plants: it is happiness to see such a servant meet with such a master. Mr. Bevis has constructed a pit here on quite a new plan: it has a span roof, and the floor is placed on air-flues, for the purpose of keeping it perfectly dry, and thus avoiding those damps which destroy so many young plants. The flues communicate with the open air at the sides and ends of the pit, and are left open all the year, except during very hot weather in summer, and frosts in winter. Mr. Bevis, its inventor, has kindly promised us a plan of it; and we hope, also, to be able to give an elevation of Mr. Dalby's bee-case, and plans, and other architectural details, of Mr. Bevis's cottage, as a suitable one for head gardeners, who have their dwelling near a flower-garden.

The Leyton Nursery. — This nursery was established above a century ago,

by a gardener of the name of Hay, who was succeeded by Mr. Hill, who died about three years ago; and it now belongs to his widow and daughters. There is an ample stock of American articles in it of a large size, and some trees and shrubs which are comparatively rare; viz. a large specimen of *Crataegus laciniata*, which has lately been introduced into the London nurseries, by Mr. Booth of Hamburgh, and which was supposed new, but which must have been in this nursery for seven years at least. The tree is 12 ft. high, but has not flowered. It appears to belong to *tanacetifolia*, or *orientalis*; but the leaves are larger than those of either of these sorts. Of *Quercus Banisteri*, or the scrub oak, there are a good many plants; of *Betula angulata*, here, as in some other nurseries, called the paper birch, there is a good stock; *Photinia serrulata*, *nyssa*, and several other choice articles, abound. The variety of red American oaks is very great. We were informed that the late Mr. Hill selected them from the seed-beds, and planted them in rows as lines of separation to different compartments, where they have attained the height of 20 ft.; and, not being pruned so severely as at Messrs. Loddiges's, their depending branches and foliage are of surpassing beauty. Of, perhaps, a hundred trees, there are not two whose foliage is alike. When shall we have such oaks distributed through the Regent's Park, and such thorns as are now to be seen in the Horticultural Society's arboretum planted in Kensington Gardens? *C. tanacetifolia*, *odoratissima*, *Aronia*, and *orientalis*, are now in the Chiswick arboretum, and in the grounds of Fulham Palace, covered with ripe fruit, and in very great beauty. Had we a hawthorn hedge by the roadside, we would graft or bud all these, and thirty other sorts, as standards, at regular distances. *C. orientalis*, which is considered by many to be exactly the same as *C. odoratissima*, differs from it in having stronger stiffer wood; in not being nearly so fragrant when in blossom, and in having a deep port-wine-coloured fruit, instead of a yellowish-red fruit, like that of *odoratissima*. The fruit is juicy, and not bad to eat, though not so good as that of *odoratissima*; and, taken altogether, the variety is one of the most beautiful of the azarole division of thorns.

Stamford Hill; William Bromley, Esq.—A number of Australian trees have stood out here during the last three or four winters. Several species of eucalyptus have attained from 12 ft. to 16 ft. in height, and form beautiful trees; one of which we have, with the permission of Mr. Bromley, had drawn for our *Arboretum*. The acacias, *metrosideroses*, *melaleucas*, and even the banksias, have stood here remarkably well; but the most beautiful Australian tree which we have ever seen in England is in Mr. Bromley's grounds, and apparently as hardy as a native: it is the *Casuarina equisetifolia*; a symmetrical stately little tree, 10 ft. high, as singular as it is beautiful. Mr. Bromley's grounds are stocked with all the more rare and valuable exotic trees and shrubs that will stand the open air in the neighbourhood of London: they contain almost a complete arboretum; and thus realise, in a great measure, our *beau idéal* of what the grounds of a suburban villa residence ought to be. We have been promised a list of the Australian trees which stand the open air here, by Mr. Wilson, the gardener, with the number of years they have been planted, their height, and whether they flower and ripen seeds, &c.; and, as soon as we receive it, we shall lay it before our readers. In the meantime, we recommend all who can procure a plant of *Casuarina equisetifolia* to plant it out in a dry sandy soil, and in an open airy situation, next spring. The plant is by no means rare in the green-houses about London. — *Cond.*

ART. V. Hints for Improvements.

SCALE for showing the comparative Hardiness of Trees.—There are many trees, generally considered as hardy, which will not stand except in favourable situations; and others, called tender, which do very well occasionally in the open

air. From observing this, it has struck me that the distinctions of hardy and tender are too broad and too vague, to give an exact idea of the treatment they require; and I conceive that you would do a great service to planters, and to the cause of arboriculture generally, if you were to publish a scale marked thus:—*Pinus sylvestris*, н н н, very hardy. Portugal laurel, н н, tolerably hardy. *Arbutus U'nedo*, н, hardy. *Laúrus nóbilis*, т, tender. *Magnòlia grandiflòra*, т т, very tender. Myrtle, or camellia, т т т, extremely tender. Pomegranate, or the genus *Citrus*, ф, requiring a frame. — *J. Phillips. Castlemacgarrett, Oct. 14. 1835.*

Hares may, perhaps, be excluded from Flower-Gardens by smoking the surrounding fences, or the gaps in them, with tobacco; and possibly, also, some species of insects might be deterred from laying their eggs on particular plants by the same means. Some poachers have lately found out a new method of facilitating the capture of hares: they merely lay their nets at some particular gate or stile, or at some hare runs in the hedge; and then go round to all the other gaps and runs in the hedges, and whiff tobacco over them. So delicate is the smell of the hare, that she will not pass through where the tobacco has been, and, of course, chooses an egress free from taint, where there is sure to be a net or a wire to obstruct her progress; and thus she is caught. (*Morning Chronicle, Sept. 25. 1833.*)

ART. VI. Retrospective Criticism.

IMMENSE Avenue of Elms, (p. 206.) — The French word was *ypreau*, which is not the French for elm, but for the white poplar, or *abele* (*Pópulus álba*). *Vilmorin. Verrières, Oct. 5. 1835.*

Live Oak (Quercus virens). (p. 206.) — The word in the text was *chêne vert*, which is *Q. Ilex*; our French name for *Q. virens* is *Chêne vert de la Caroline*, or *Chêne vert d'Amérique*. — *Id.*

Planté en panière (p. 206.) should be *Planté en paniers*, planted in baskets. — *Id.*

The Red Oak and the Scarlet Oak (Quercus rubra and Quercus coccinea). (p. 206.) — I observe that you seem to consider these two species as one and the same thing, or, at least, as one species. In this you appear to me to be in error. I refer you to Michaux, and recommend you to compare seedling plants of the one with seedling plants of the other. Come and see rows of both sorts, which I have sown parallel to each other on the same day, and in the same soil. You will be convinced by the habit, by the leaves, by the wood, by the difference in the vigour of their growth (*Q. rubra* at the same age being two or three times stronger than *Q. coccinea*), and, I am sure, will say with me, that they are two very distinct species. But if you are absolutely determined that they shall be only varieties (*car il y a en cela bien du libre arbitre*), as these varieties are extremely different, distinguish them by different names; call the one the red oak, and the other the scarlet oak. — *Id.*

This we shall do in future. At the time we printed the article referred to, we had not paid so much attention to oaks as we have since done. We have this autumn studied them in Loddiges's collection, where above thirty American sorts have attained the height of from 15 ft. to 30 ft., and also in the garden of the Horticultural Society, and at White Knights. With the exception of the entire-leaved oaks of America, the chestnut oak, the *Q. virens*, and the *Q. Banisteri*, or scrub oak, all the others may be divided into two families, or, as we think, two species; viz. the white oaks, distinguished by the pale green and comparatively little cut margins of their leaves, and by their white scaly bark; and the red oaks, distinguished by the dark reddish green of their leaves, their deep lacinations, and by the smooth black bark of their trunks and branches. We admit *Q. rubra* and *Q. coccinea* to be as distinct as the common codling and the Hawthornden apple; but we are inclined to think that

they have no more claim to be considered as distinct species of *Quercus*, than these two varieties have to be considered as distinct species of *Malus*. At the same time we may be wrong; and we are always content to have our opinions on this and on every other subject rigidly criticised by our readers, for none of whom have we a greater respect than for M. Vilmorin; and this respect, we believe, is shared by every person who knows that gentleman. — *Cond.*

Species and Variety of Bétula. — In p. 502. you state that you have “had the most decided proofs that *Bétula populifolia* H. K., *B. excelsa* H. K., *B. nigra* L., *B. péndula* Roth, *B. pubescens* Ehrh., and *B. álba* L., are all one and the same species.” As the above observations, coming from you, are likely to deter planters from enquiring for more than one of these species in place of all, I take the liberty of stating that I have examined the species in question in the Birmingham Botanical and Horticultural Society’s gardens, as obtained from Messrs. Loddiges, and find the first three species so distinct, that no person could ever suspect them to be the same: indeed *B. populifolia* is so appropriately named, that it would be easier to pass it for a *Pópulus*, than for any of the other species of *Bétula*. The three last species come nearer each other; but even in “their present state,” in this garden, I consider them distinct, and, when in flower, the catkins will probably afford more satisfactory specific distinctions. The *B. péndula* must not be confounded with *B. álba* var. *péndula*. I have put in specimens to dry of these six species, and shall forward them for your examination at some future time. — *Id.*

We are happy to receive the criticisms of a practical botanist of so much experience and acuteness as Mr. Cameron. We do not deny that there is a certain degree of distinctness in all or in most of the sorts of birch he mentions. We are quite aware that *B. péndula* is different from *B. álba péndula*; the latter being the common birch, and the former a weeping variety of the poplar-leaved variety of the common birch. All that we contend for is, that all these varieties, and several others, may be picked out of seed-beds and nursery rows of plants which have been raised from seeds of the common British birch. Even if seeds of *B. populifolia* were sown, and produced poplar-leaved plants, it would no more convince us that *B. populifolia* was a species, than the circumstance of the seeds of the golden pippin apple producing golden pippins rather than crabs, would convince us that that variety of apple was a distinct species. We wish, however, to hear every opinion on the subject; and we trust that we are not so wedded to our own, as not to be able to alter it, when facts require that we should do so. — *Cond.*

Láthyrys Armitageanus, &c., (p. 525.) — In recording *Láthyrys Armitageanus* West., Birm. Bot. and Hort. Soc., and *Oxalis Darwalliana* West., Birm. Bot. and Hort. Soc., you have given a wrong explanation of West. It is the abbreviation of the name of Mr. Frederick Westcott, one of the honorary secretaries of the Birmingham Botanical and Horticultural Society, by whom the specific characters of these two plants were drawn up, as published in *Aris’s Birmingham Gazette*. There is only another society in Birmingham of a similar nature, and it is not likely to be confounded with this. It is termed “The Warwickshire Floral and Horticultural Society.” — *David Cameron. Botanic Garden, Birmingham, Oct. 6. 1835.*

The Question whether Potatoes ought to be planted whole or in Sets, appears to be still undecided. It is still *vexata questio*. In p. 536. some opinions of Mr. Hollist are mentioned. My experience flatly contradicts his notion. I have no doubt but that whole potatoes produce the greatest weight. I proved to a friend of mine in Yorkshire that, by his mode of cultivating potatoes, he lost not less than one thousand pounds last year. I once before addressed you on this subject of potatoes, in the hope that you would have called the public attention to it; and I told you I should make an accurate experiment this year. I did so, but I fear it will fail. We were without rain for six weeks: the haulm was quite burnt up; and now the weather is so wet, that I cannot take the potatoes up. However, I will note the result, be it what it

may; for I think the proper culture of potatoes a much more important object than others seem to do. — *R. Lowndes. London, Sept. 20. 1835.*

ART. VII. *Queries and Answers.*

PUBLIC Evening Reading-Rooms in Towns and Villages. — Will you, or any of your readers, suggest the cheapest and best design and mode of execution for a public reading-room, to be opened only in the evenings, and on Sundays and holidays, for all persons whatever to walk into and read, paying at the rate of a penny a night? It appears to me that it would ultimately be a very great public benefit, if one or more of such rooms were established in every town and village throughout the country. The benefit would consist in improving the character of out-door workmen, who, from the low rate at which they are paid, are unable to have a fire in their lodging rooms, and are therefore obliged, either to go to bed, or to go to the public-house, or, what is perhaps, in one point of view, worst of all, to get married. It is very natural that persons so circumstanced should wish to spend their evenings in society: and, if they have no relations, what can they do, at present, but either go to the public-house, or get married? Now, by opening warm comfortable rooms, with a moderate supply of books and newspapers, society might be enjoyed, and the mind and the habits improved? Perhaps, in most cases it would be desirable rather to alter an old building, so as to produce such a room, than to build a new one; but, if some of your correspondents, architects, or builders, will take the subject into their consideration, I have no doubt they will throw light on it. I trust that when Mr. Buckingham next brings his bill into the House of Commons, for parish libraries, gardens, &c., he will not lose sight of this subject; and I think, also, that it would not be unworthy of the consideration of the Poor Law Commissioners. — *J. A. K. London, Sept., 1835.*

Outline of a Botanical Tour. — I think it would be gratifying to many of your readers, if you were to give occasionally an outline of a botanical tour, something like a skeleton of your own tours (say from London to Southampton), stating the distances, and each gentleman's place, with a memorandum of what is most meritorious in his collection, hardies, hot-houses, &c. I am sure that, in travelling, I often pass by places that it would afford me great pleasure to see, without knowing it. Or a great town may be taken as a centre. I am sure that your correspondents would have pleasure in sending you the necessary data: I can at least answer for myself. It would also be useful, if it were added, whether the places are permitted to be shown generally, or on particular days. — *M. March, 1835.*

Inserting the Levels of Plans. — Would it not be a very great improvement of plans, such as that in p. 388., if the levels could be inserted, calling the lowest point 0; or, what would be better still, the height of the lowest point above the sea? — *J. Phillips. Castlemacgarrett, Oct. 14. 1835.*

Chatsworth Arboretum. (p. 303.) — In plot 26. *Rosææ*, why is *Ròsa* omitted? Is there no rosarium within the pleasure-garden or arboretum? Why is *Ficus* omitted among *Urticeæ* (p. 395.)? It is very handsome in summer, growing luxuriantly; and it is quite as hardy as many which have found a place in the list; such as *Tenòria*, *Magnòlia grandiflòra*, *Laùrus*, *Pùnica*, &c. Am I to suppose all the parts of the plan marked *y* to be kept grass? — *Id.*

The most profitable Age for cutting Oaks. (p. 437.) — In answer to the query, as to cutting down oak timber, I recollect being present, and hearing Mr. Larkin give evidence at the East India Shipping Committee in 1814, 1815, or 1816. He said, in the most favourable situations, the Weald of Kent, for example, the most profitable time to cut oak is at 90 years old; as, though the largest scantling was at 130, the increase in those 40 years did not pay two per cent. — *Id.*

The Female Black Italian Poplar (P. monilifera). — In your remarks on

the trees at Farnham Castle (p. 503.), you noticed "a female black Italian poplar," a seed catkin of which had stuck upon an adjoining tree, and on examining which, you found it contained a large quantity of cotton, which you have sent to Manchester. There is a large female poplar here, which produces vast quantities of cotton every season; so much so, that the shrubs within a great distance of it are disfigured by its downy catkins, and the walks have often to be swept during the season of their falling, to prevent the littery appearance occasioned thereby. This is the *Pópulus monilífera*, Canada: is it the same that you call the black Italian? On looking into your *Hortus Britannicus*, I find that *P. dilatàta* alone is marked as a native of Italy. You state that the female black Italian is rare, and that you know of only one other specimen, which is in the garden of the London Hort. Soc. If this be the species to which you allude, it will be another added to your number. You saw the tree when you called here (Oct. 13.); but, as I had not then read the interesting notes of your late tour, I did not direct your particular attention to it. — *James Loudon. Mr. Gurney's Cottage, Upton, Oct. 13. 1835.*

Pópulus monilífera, though a native of America, is, without doubt, the species called in the nurseries the black Italian poplar; but how it has come to be so named, we cannot tell. In Brown's *Sylva Americana*, it is said to be called, in America, the Virginian poplar, and the Swiss poplar; "the last of which denominations is owing to its being abundantly multiplied in Switzerland." (*Sylva Amer.*, p. 256.) There is the greatest confusion in the genus *Pópulus* in the British nurseries. In our opinion, they may all be reduced to four species, or, if the term is liked better, four subgenera: *P. álba*; *P. græ'ca*, which includes *trémula*, *tremulòides*, *grandidentàta*, &c.; *P. balsamífera*, which includes the Ontario poplar, and all having very resinous buds; and *P. nígra*, which we conceive to bear the same relation to *P. monilífera*, *angulàta*, &c., that a crab does to an apple. The Lombardy poplar we conceive to be a mere sport of *P. nígra*: but we have written to a friend in Lombardy, to procure us, if possible, the history of the tree in that country. *P. cordàta* we conceive to be a stunted tomentose variety of the Ontario poplar. These opinions, however, are not to be considered final on our part, till we examine into the subject farther. — *Cond.*

Reddish circular Scales on the under Side of Oāk Leaves. — Early in the summer, I observed that the under side of the leaves of the oaks had reddish circular spots upon them, which I attributed to insects, and thought no more of them. But, as the season advanced, I observed they altered in their appearance, and I was induced again to examine them under a magnifier, and I came to the conclusion that they were parasitic plants, and not the effect of insects. I thought I could perceive the surface covered with anthers, such as are to be seen on stones that are producing lichens and mosses. The external appearance of one detached from the leaf was not unlike "sun dew." I observed, too, that they were endued with a considerable elastic power; for, upon inserting the thumb nail under the outward edge, the plant sprang up to the height of 2 in. or 3 in., and darted forward 6 in. or 7 in. This power of dissemination, I need not tell you, many plants possess by contrivances wonderful and most curious.

I enclose some oak leaves with these substances upon them; and I hope they will reach you without being rubbed off. I also inclose a few of the plants taken from leaves.

The oaks, for more than ten miles round, were similarly affected. I do not recollect having ever seen them before. Being at Bagshot Park, I called the attention of Mr. Toward to them, who had noticed the appearance, but contented himself with the notion, that they were only discolorations from insects; but, upon my putting a leaf and a magnifier into his hand, he came over to my opinion. You will observe that the upper surface of the leaves is black and dirty. That appearance preceded the appearance of the spots on the under side, and, perhaps, may be ascribed to honey dew. — *W. Lowndes. London, Sept. 2. 1835.*

The Coomi-paru of Guiana. — At a late meeting of the Medico-Botanical Society, Dr. Hancock read a paper on a plant called coomi-paru by the natives of Guiana. It is used to intoxicate fish so as to enable the fisher to catch them with the hand. It flowers at all seasons of the year, and is constantly covered with leaves of a purple colour; the flowers are small and white. The fluid circulating in the plant is lactescent, nearly as thick as cream, and is so abundant as to trickle down in a small stream if the bush be wounded. A seed of this plant taken internally is of great use in dropsy. Can Dr. Hamilton, or any of your correspondents who, like him, are acquainted with the botany of South America, favour your readers with the scientific name of the above plant, and state whether any living specimens are to be seen in this country, and where? — *T. J. D. Bristol, Aug. 4. 1835.*

Láthyris magellánicus. — Do you know whether a hardy annual, called Lord Anson's Pea, be still cultivated in gardens, and whether it is the *Láthyris magellánicus Lam.*? It was common in gardens some years ago, and is very distinct from our plant. — *David Cameron. Bot. Gard. Birmingham, Oct. 6. 1835.*

A Mode of preserving the Flowers of the Pansy. — I was induced last summer to endeavour to preserve the flowers of some very fine pansies, by gumming them on pasteboard, and covering them with gum water: they looked very well at first; but in a short period the colours of several of them began to fade, while others are at present as brilliant as the day I finished them. Had all the specimens faded on exposure to the light, I should not have been so much surprised; but I cannot account for some having faded, while others remained good. Perhaps some of your readers would be kind enough to give me information as to the best and surest mode of preserving the colours. I have heard that if the flowers are gathered under a very hot sun, the colours will stand. — *J. L. Oct. 23. 1835.*

Potatoes. — A correspondent of the *Leeds Mercury* states that he is informed it is the practice in Lincolnshire to salt potatoes to prevent their vegetating in winter, and that these potatoes, if planted, will not root, particularly in wet seasons, which he thinks may be the cause of the frequent failures of this crop. He has never met with but one failure in the course of ten years, and on that occasion he bought his potatoes for cutting into sets, in the spring, having neglected to provide himself in the autumn; and he concludes that the cause of their not having grown was that they had been salted. We should be glad to know, from any of our Lincolnshire correspondents or readers, how far the above account sent to the *Leeds Mercury* is true. — *Cond.*

ART. VIII. *Notices of the Exhibitions of the Provincial Horticultural Societies for 1835.*

IN reading over the notices of these societies, it is impossible to avoid being struck with the immense increase which has taken place in the floricultural department. The number of dahlias grown in different parts of the country appears almost incredible. Some very fine seedlings appear to have been raised in various places, both of this flower and of the pansy. We may also direct attention to a seedling fuchsia, mentioned p. 698.; some seedling apples, p. 699.; and a purple wallflower, p. 714.

BEDFORDSHIRE. — *Grand Horticultural Exhibition in Bedford.* — *Sept. 15.* We have only an account of one exhibition in this county, viz. the one above alluded to; and even this is called by the reporter "long expected." It was a dahlia show, and the principal successful candidates were, the Rev. Mr. Newby of Tilbrook, Mr. Webster of Sandy, and Mr. Widnall and Mr. Brown of Cambridge. We were, however, sorry to see the words "no merit" placed

against some of the prizes, and to find that several of them were not awarded, for want of claimants. (*Cheltenham Chronicle*, Sept. 25.)

BERKSHIRE. — *Reading Horticultural Society.* April 30. This was a splendid show; the most successful candidates, W. Stephens and C. S. Lefevre, Esqrs., each sending a fine collection of plants. Mr. Wood, gardener at White Knights, and Mr. Greenshields, gardener at Englefield House, also sent some very handsome specimens, though only for ornament. The cottagers' prizes were numerous and remarkably good. (*Berkshire Chronicle*, May 2.)

CAMBRIDGESHIRE. — *Cambridgeshire Horticultural Society.* March 17. This was the best collection of flowers, fruits, and vegetables ever exhibited by this Society so early in the season. The cucumbers, asparagus, sea-kale, lettuces, and other vegetables, were remarkably fine; as were the stalks of rhubarb and the table and baking apples. Mr. J. Newman and Mr. Hudson gained most prizes; and a basket of spring flowers, by Mr. J. Denson, excited very general admiration. (*Cambridge Chronicle*, March 27.)

April 22. This show was rendered very brilliant by the number of stove and green-house plants sent by the neighbouring gentry for ornament. The principal flowers shown for prizes were auriculas and polyanthus, most of which were old favourites; but two seedlings (Gimson's conqueror auricula, and Hunt's formosissima polyanthus) were much admired. (*Ibid.*, April 24.)

May 20. This show was principally for tulips, but some remarkably fine pelargoniums, &c. were exhibited. Some beurré de Ranz pears, and golden pippin apples kept from last year, obtained extra prizes, as did a pyramid of ranunculuses by Mr. Catling, a basket of border flowers by Mr. Denson, some seedling calceolarias by Mr. Biggs, &c. The cottagers' prizes were numerous and good. (*Ibid.*, May 22.)

July 15. This was principally a fruit show. The heaviest gooseberry weighed 1 oz. 7 gr., and was exhibited by Mr. Giddings. A seedling red gooseberry was shown by Mr. Woods, who had also a seedling carnation which gained a prize. The carnation and picotees were very beautiful. The cottagers' prizes were not so numerous as usual. (*Ibid.*, July 17.)

Sept. 16. We never witnessed a more gratifying exhibition, or one which more strikingly evinced the improved condition of horticulture and floriculture in this neighbourhood. The flowers (particularly the dahlias) were of a most splendid character, and marked out Cambridgeshire as a successful competitor against all England. To establish this reputation, some of the members of the Society raised a handsome private subscription, to be distributed in three prizes of 10*l.*, 5*l.*, and 2*l.*, for the best exhibition of 24 dahlias, the competition to be open to all England. These prizes were gained by Mr. Widnall, Mr. Brewer, and Mr. Searle. The collection of fruits on the occasion was not so large as usual. The room was very tastefully decorated with various devices in flowers by Mr. Catling.

The following articles, well worthy of notice, were sent for exhibition only, viz.: by Mr. Curtis of Glazenwood, a dish of Gernerina, or large Portugal plums, such as are sent to England dried, and used for desserts: by Mr. Wilmot of Isleworth, a large bunch of fine seedling white grapes, of the muscat kind, having large berries. The grape is most prolific, and can be obtained in perfection from March till October: it is called Wilmot's early prolific muscat. Mr. Wilmot also produced two very large and fine specimens of pines, viz. the Sierra Leone and the globe.

The establishment of the cottage garden prizes was considered a most important feature in the progress of the Society. Mr. Leviche, a gentleman from Sheffield, proposed to give three prizes, each consisting of a set of knives and forks, to those cottagers who shall gain the most prizes, in number and value, during the next year, and a set of scissors to each of their wives. Mr. Wilmot of Isleworth proposed to give prizes of garden seeds and garden tools to cottagers, by way of additional encouragement. Mr. Leviche afterwards proposed to give a silver tea-service, value 40*l.*, to such member of the Society as shall gain, next year, the greatest number and amount of prizes. (*Ibid.*, Sept. 25.)

Sept. 24. *The Florists' Society* held their grand dahlia show, when a very splendid collection of flowers was exhibited. The first prize was obtained by Mr. Widdall. (*Cambridge Chronicle*.)

CORNWALL.—*Royal Horticultural Society*. May 27. A very rare specimen of the *Melaleuca pubescens* [? *incana*], sent by G. C. Fox, Esq., was entitled to particular notice, from the circumstance of its having flowered in the open ground. The specimens and groups of indigenous plants reflected the greatest credit on the exhibitors. Among them were several valuable additions to the hortus siccus of the Society, for which it is indebted to the persevering industry and talent of Miss Warren. There was only a small collection of fruits; but the samples exhibited were good, particularly of apples, the produce of last year, some of which were beautifully preserved. We noticed some handsome oranges, which had been grown in the open air without protection, from the garden of M. Williams, Esq., Trevince; and a dish of ripe strawberries, from Mr. Stephens of Penryn. The show of vegetables, the produce of this season, was highly creditable: the greatest novelty in this class was a dish of good-sized tubers of the *Oxalis crenata*, or sorrel potato, from G. C. Fox, Esq., Grove Hill, Falmouth. Among the stove plants was a species of *Oncidium*, sent for exhibition from the garden of Mr. C. Lemon, which is the third species out of a collection imported this season from Havannah, by Capt. Sutton of Flushing, near Plymouth, which has flowered, and proved to be new. Several exotics (names not given) were shown, which had been growing for several years in the open air without any protection. There was a fine display of flowers from the nurseries of Mr. Rundle and Mr. Pontey of Plymouth, and of Mr. Rundle of St. Austin. The cottagers' prizes were very numerous and very good. (*West Briton*, May 29.)

July 15. The chairman called the attention of the meeting to some choice exotics, raised by G. C. Fox, Esq., from seeds sent from the East Indies by Captain Jenkins, the discoverer of the tea plant in Assam. [It has been stated in the newspapers to be Major Grant who made this discovery.] The cottagers' prizes were remarkably numerous and good. Among the fruits was a large bunch of "that excellent variety, the Tottenham Park muscat, from the garden of M. Williams, Esq., of Trevince. A dish of handsome oranges was pointed out to us as having been grown in the open air in the garden of G. C. Fox, Esq., at Grove Hill; and a small dish of the *Gaultheria Shallon*, remarkable as being the fruit which the North-west American Indians compress into thick cakes for winter food, was furnished from the garden of Sir Charles Lemon, Bart., M. P. Some of the gooseberries grown by Mr. Goffe of Falmouth might, we think, have challenged comparison with any of those exhibited in Lancashire. There was also a beautiful dish of apples of 1834, from Captain Sutton of Flushing, who, we hope, will favour the Society with an account of the method of preserving them which he has so successfully adopted." The exotic plants from the garden of Sir John St. Aubyn, E. W. Pendarves, Esq., &c., were very fine; particularly a beautiful spike of *Eichium nervosum* from a plant which has been in the open ground for four or five years, and has now between 30 and 40 spikes of flowers on it, exhibited by Mr. Pendarves; and a seedling fuchsia, raised by Charles Bate, Esq., which has much of the habit of *F. globosa*, though it is perfectly distinct from that species. For the principal novelties in the collection of indigenous plants, we are indebted to Miss Warren of Flushing, and Miss Rodd. The latter discovered the *Ceterach officinarum* on an old wall at Pintillie; the beautiful *Hymenophyllum tunbridgensense* on a granite rock in the Cascade Wood, at Trebartha; and *Orobancha rubra*, which had never before been found in England. Miss Warren exhibited a beautiful group of aquatics, and other indigenous plants, from the vicinity of Falmouth; Mr. Sleeman and Mr. Jones exhibited a similarly interesting group from the neighbourhood of Helston. It is somewhat remarkable that Miss Warren should have also detected the *Hymenophyllum tunbridgensense* in College Wood, near Penryn; a specimen of it from that place was on the table. (*Ibid.*, July 21.)

Sept. 30. The chairman, Sir Charles Lemon, in enumerating the objects of peculiar interest, mentioned, among others, "a beautiful cattleya, from Mr. G. C. Fox of Grove Hill : and an amaryllis from Mr. Vivian of Pencalenick. There is also a lilac bulb, called *Griffinia hyacinthina*, and separated from the genus *Amaryllis*, with which it is closely allied, on account of some generic distinctions of no great importance. An epiphyte, lately brought from Havannah by Captain Sutton (and which Dr. Lindley tells me is a new specimen of *Epidendrum*), is worth notice. A collection of lichens, from Miss Rodd, and amongst them that rare and beautiful fern *Hymenophyllum Wilsoni*. This species, discovered a few years ago, has only been found in Yorkshire, and, I think, in Ireland ; and, very unexpectedly, has appeared amongst us in Cornwall. Miss Warren has sent us a fourth volume of the *hortus siccus*, which she has taken the trouble to arrange for the Society." Sir Charles then detailed the results of some experiments which he had made with some Mexican wheat sent him by Dr. Hamilton, and in growing potatoes from whole tubers and sets, neither of which had proved successful. Among the fruit were some red and white currants, and some morello cherries, very plump and well preserved ; from Mrs. Grylls, and Mr. Tremeneere. Among the vegetables we remarked a curious kind of brown speckled cucumber, which, we were informed, was grown by Mrs. Fox of Falmouth, from Dr. Wallich's seeds. The assortment of fruits, flowers, and vegetables, brought forward by the cottagers, was such as to do credit to the several exhibitors, and to show the great advancement which they have made in the culture of those articles that are likely to be of most importance to themselves and families. The encouragement of this class is one of the great objects which the Society has had in view ; and it is truly gratifying to see that its benevolent intentions are so justly appreciated. (*West Briton*, Oct. 3.)

The botanists of Cornwall pay great attention to indigenous plants ; and we learn by a paragraph in the *West Briton* of Oct. 26., that a report has been made by the Society on the merits of the indigenous plants discovered during the past year. The most remarkable circumstance noticed was the discovery of *Hymenophyllum tunbridgense*, in two different parts of the country, by two ladies, Miss Warren and Miss Rodd, nearly at the same time. Mr. C. A. St. John also found *Brômus velutinus* at Gunwolloe and the Lizard.

Tywardreath Rural Gardening Society. — July 22. This Society was established principally for giving prizes to cottagers whose rent does not exceed 6*l.* 10*s.* per annum ; and this was its sixth annual exhibition. At an early hour of that day, persons of every rank, from the baronet to the cottager, were seen proceeding to the village, which presented a very gay appearance ; arches of evergreens, decorated with flags, being erected in several parts of it ; the bells ringing merrily ; and the inhabitants seeming to vie one with the other in making preparations for the reception of their friends and visitors. A spacious arcade was erected behind the church, along which two tables were ranged for articles exhibited for first and second class prizes : the show on these was excellent, particularly that on the cottagers' table : fruits, flowers, and vegetables were of the first quality, and presented an example of industry and perseverance well worthy of imitation. (*Ibid.*)

CUMBERLAND. — *Carlisle Horticultural Society.* *Show of Dahlias.* Sept. 22. The dahlias, both for beauty and number, very far exceeded every previous show in Carlisle. There were several new specimens, and some fine instances of perfect variegated flowers, which were much admired. Messrs. Wm. and T. Hutton showed more than 100 superior and distinct varieties of this gorgeous flower. The pansies were extremely large, and rich in colour. There were two excellent specimens of the coffee tree, from Mr. Roshwell's of Mains, one with the pods hanging from the branches ; and there were two most beautiful cockscombs exhibited from Crofton Hall, which attracted general admiration, one of them measuring no less than 2 ft. 2 in. across the top. The fruit, as might be expected from the favourable season, was of first-rate quality, and in great

abundance : in short, the only drawback to the excellence of the show arose from the smallness of the room ; the specimens being too much crowded to be seen to full advantage. The cottagers' prizes were very good. (*Cumberland Patriot*, Sept. 26.)

Whitehaven Horticultural Society.—*Auricula Show.* April 30. Mr. R. Elliot's green-edged auriculas were so superior as to gain all the prizes given for that class of flowers ; and Mr. J. Clarke was nearly equally successful with his specimens of polyanthus. The fruit and vegetables were uncommonly good, especially the apples belonging to Mr. Gaitskell and Mr. Elliot, and the cabbages, rhubarb, &c., shown by Mr. Davidson of Corkickle. (*Cumberland Pacquet*, May 5.)

Tulip Show. About 400 tulips were in the room. From the backwardness of the season, they were generally indifferent flowers ; but those of the Rev. Mr. Fox were very beautiful : he won most of the prizes. Mr. James Clarke, gardener to the Earl of Lonsdale, exhibited two beautiful baskets of plants, which were greatly admired ; and Mr. Robert Elliot, gardener to Milham Hartley, Esq., showed probably the finest *Epiphýllum speciosum* ever seen in Whitehaven : it was literally covered with blossom, and one gentleman counted 70 flowers upon it. Mrs. Armitstead, as usual, came off first in rare hardy plants. Of British plants there was a greater number than usual ; and for the first time, if we remember rightly, the show abounded with various specimens of heartsease : there were many varieties of this fashionable plant. (*Whitehaven Herald*, May 30.)

Carnation Show. August 13. "The show of flowers was splendid in the extreme ; but, owing to the dryness of the season, the number of dahlias was fewer than we have witnessed on former occasions. Mr. Gird and his son again distinguished themselves in the growth and management of carnations and picotees, and carried off the chief part of the prizes awarded to the respective classes of these flowers, the former having won prizes with 22 flowers of his own raising, several of them from the seed-bed ; a fact, we believe, unprecedented. They had no fewer than 84 carnations and picotees in the room. We observed a handsome bouquet belonging to Mr. Gaitskell of Hall Santon, whose pansies, for number and beauty, were superior to any thing ever shown in Whitehaven before. The green-house plants shown by Mr. James Clarke and Mr. Robert Elliot were also very splendid. The heaviest gooseberry, however, weighed only 16 dwt. ; the red currants weighed 35 bunches to half a pound, and the white 26. Amongst the competitors for cottage prizes, none is entitled to more credit than Mr. J. Steel of Senhouse Street : his cabbages were the largest ever seen in Cumberland at this period of the year. He also exhibited a head of Scotch kale as a proof of what might be accomplished by attentive and skilful cultivation : it measured 4 ft. across the top!" (*Cumberland Pacquet*, Aug. 18.)

DERBYSHIRE.—*Wirksworth Horticultural Society.* June 27. "There was a most beautiful display of tulips, with many other choice flowers. The peaches, nectarines, and cherries, from Chatsworth, were particularly fine, the latter being suspended in a festoon over the centre of the table, which was greatly admired ; and a great variety of green-house plants, from Chatsworth and the gardens of the gentlemen in the neighbourhood, were tastefully distributed in the room." (*Derbyshire Courier*, July 11.)

Brompton and Walton Floricultural Society.—June 30. This was the annual meeting of the Society for the display of pinks, when "the flowers were much finer than those exhibited at the last meeting of the Chesterfield Horticultural Society." (*Ibid.*)

DEVONSHIRE.—*Devon and Exeter Botanical and Horticultural Society.* May 14. Nearly all the noblemen and gentlemen in the vicinity contributed magnificent plants to increase the splendour of this exhibition ; and the very large contributions of Messrs. Lucombe, Pince, and Co., and of Mr. Veitch, were in more than an ordinary degree attractive. Among the plants shown by Messrs. Lucombe, Pince, and Co., we were particularly struck with a superb new crimson hybrid rhododendron, of the richest deep crimson colour, spotted

with numerous black spots. Their collection of ericas was really splendid, as were their anemones. They had also a fine collection of new Ghent azaleas; some superb cactuses, one of which had at least 2,000 flowers upon it, and was most gracefully trained; some of the finest specimens of *Azàlea indica phœnicea* and *Azàlea i. álba* ever exhibited; a beautiful seedling *Azàlea indica* of a delicate rose colour; a grand collection of pelargoniums; the graceful ostrich feather fern; the new and most curious chameleon rose, remarkable for its most singular change of colours; some fine plants of lemons, oranges, and citrons; and the true scarlet-fleshed West Indian shaddock; a fine collection of new calceolarias, both of the herbaceous and the shrubby kinds, one of which, a seedling of their own, called *exoniensis*, was much admired; a fine bouquet of *ixias* and *sparaxis* from the open ground; some very beautiful *amaryllises*; some fine and curious orchideous plants; and many others which our limits will not suffer us to specify. The contrary side of the room was occupied by the rich collection from the conservatory and grounds of Mr. Veitch, among which were several varieties of *Rhododéndron arbòreum híbridum*, including a splendid specimen of *R. Smíthii*, 6 ft. high, of rich crimson shade, thickly dotted with darker spots; a beautiful pale sulphur-coloured *Rhododéndron azaleòides*, an evergreen, with dark green foliage, and very fragrant; two seedling *Azàlea indica*, with 12 varieties of new seedling hardy azaleas, of bright orange, pink, and rose colour shades; a superb seedling *amaryllis*; two beautiful new seedling clouded pelargoniums, viz. Veitch's *Saladin* and *píctum obscùrum*, flowers of *Warratah* camellia, from a plant which has stood seven years in the open ground; and *Ribes speciosum*. At the upper table, Mr. James Manley of Heavitree had some beautiful calceolarias, including a specimen of the talisman scarlet (by far the best in the room), &c. In the centre of the room, Mr. Glendinning, successful as a competitor for prizes, exhibited, from the fine and well-ordered gardens at Bicton, a branch of the natural wood of some tree grown in Cuba, containing two species of orchideous plants, very healthy, and coming into flower: this curious specimen is unknown in England. Mr. Glendinning also exhibited a plant in flower, *Gesnèria Douglàsii*, called after the unfortunate Douglas; also the *Gossypium arbòreum*, or cotton plant, with cotton and flower; and several orchideous plants. Near these also was a small stand of pelargoniums, among which was a beautiful new seedling, sent by Messrs. G. Dymond and Co. (*Treuman's Exeter Flying Post*, May 21.)

June 18. The most remarkable article exhibited was a cabbage grown by a cottager, Richard Westlake, weighing 17 lb.; the best apple exhibited (the Ottery) was also grown by a cottager. The nurserymen, as usual, exhibited splendid collections, among which were, a beautiful bright yellow Scotch rose, a rose (the village maid) striped like a bizarre carnation, a new crested or fringed rose, &c., by Mr. Veitch; and some remarkably fine pelargoniums (among which was *Pelargònium Hericartiànum*), &c., by Messrs Nott and Hewett, successors to Messrs Dymond. Messrs. Lucombe, Pince, and Co., among many other fine things, exhibited a sweet-scented climbing rose, a magnificent seedling pelargonium, with very large flowers, called the emperor of the west; and a brilliant seedling calceolaria. (*Walham's Exeter and Plymouth Gazette*, June 20., and *Treuman's Exeter Flying Post*, June 25.)

Besides the above notice taken from the newspapers, we shall give a short extract from a letter written by a friend of ours, who happened to be present at this show:—"The large room in which the exhibition was held, being lighted by a skylight in the cupola, was very favourable for displaying the plants to advantage. At the farther end of the room were several large arches of bays and flowers, and in front of this was a large stage on which was placed the finest fruits with several other interesting objects. At the opposite end of the room were arranged the different kinds of vegetables intended for competition; and, in the centre of the room, were placed three circular stages for exhibiting the plants and cut flowers intended for competition; also several large clumps arranged on the floor of the room. Being an entire stranger, I shall not attempt giving you the names of the competitors; these you will see by the Exeter papers:

what principally occupied my attention was, the beauty of the collections of plants occupying the two sides of the room, with trifling exceptions, extending the whole length, and of considerable breadth. On entering the room, that occupying the right side was from Lucombe and Pince's Exeter Nursery, containing the representatives of Australian scenery in *Altingia excelsa* (or Norfolk Island Pine), *Banksia*, *Dryandra*, *Doryanthus*, &c.; and that on the left from Messrs. Veitch. Both these were splendid. — *R. T. June 20.*"

We understood from the same correspondent that there were also flower shows at Honiton on the 23d, and at Tiverton on the 26th. "Both were respectably attended; and it was pleasant to see the attention paid to the cottagers; a remarkably fine race of men, who powerfully recall the recollection of our rude forefathers."

Aug. 20. Messrs. Lucombe, Pince, and Co., had a very fine collection, particularly of German asters, ericas, and dahlias. Their green-house and stove plants were also very fine. Mr. James Veitch of Killerton and Mount Radford nurseries, presented a superb collection of dahlias, including several unique and peculiarly striking new seedlings of white and yellow, shaded with purple and crimson. Amongst the named sorts we particularly noticed Pratt's Clio, delicate buff, shaded or tipped with purple; fairy queen, clear white, with purple; Duchess of Buccleugh, shaded white and rose; rainbow, rose and white, beautifully edged; fine scarlet, particularly large and perfect; Veitch's lutea picta, yellow with dark eye, &c. In the collection of exotics were superior specimens of rare and beautiful climbers; viz. *Houstonia longiflora*, covered with a profusion of long scarlet flowers, and *Thunbergia alata alba* (never before exhibited in this country), clear white flowers with jet-black eye; and of annuals there was a very extensive assortment. Among the plants exhibited by Mr. J. Manley of Heavitree, we observed a collection of new shrubby calceolarias; a very good assortment of seedling and other fuchsias; one of the former, when in bud, appears to be a perfect white, but, when open, changes to a pink; another was of the shape and colour of globosa, but double the size. (*Woolmer's Exeter and Plymouth Gazette*, Aug. 22.)

Devon and Exeter Floricultural Society.—*Oct. 9.* This was the last exhibition of the Society for the season, and it was one of the best ever witnessed. Messrs. Nott, Hewitt, and Co., had a very fine remarkably large purple dahlia, named purpurea elegans; and Mr. Veitch showed his Mars, a beautiful cupped scarlet, which won the seedling prize at a late metropolitan exhibition, and was declared to be one of the best-grown dahlias: also a beautiful striped dahlia, white with purple stripes through each petal, called the national; and one called the wonder, a dark maroon, with white tips, quite new. Messrs. Lucombe, Pince, and Co., had also a great variety of new shaded, spotted, tinted, and striped varieties, as well as some beautiful seedlings of this year's raising, especially one they have named Baroness Dimsdale, a most beautiful and delicately tinted variety. Mr. Manley of Heavitree had also a superb collection, with a very fine box of seedlings raised in the present year. (*Ibid.*, Oct. 10., and *Treman's Exeter Flying Post*, Oct. 15.)

Royal Devon and Cornwall Botanical and Horticultural Society.—*May 14.* The pine-apples from the gardens of Sir Ralph Lopez and the Rev. H. Hare were of fine quality; and the citrons from Endsleigh, grown in the open air, excited universal approbation, as did those from the conservatories at Port Eliot. The hot-houses of Kitley and Membland furnished some very fine bunches of grapes: admirably kept apples, of fine and approved sorts, were in great profusion. The Roseberry strawberries from Endsleigh were good; and the company much admired a beautiful specimen of ginger, grown at Coffleet, the cultivation of which exotic seems much improved since former exhibitions. It would be extremely difficult to say what part of the room gave most satisfaction, since each was equally splendidly furnished either with fruits, flowers, or vegetables. The exotic plants comprised some very fine specimens. The side of the room appropriated to vegetables afforded infinite satisfaction to every one, inasmuch as several of the best productions were exhibited by cottagers;

amongst whom is to be found one very meritorious individual, named William Lampey, who obtained no less than nine prizes. The vegetables were remarkably fine. (*Plymouth Weekly Journal*, May 20.)

July 23. Mr. Mitchenson, gardener to the Right Hon. Sir H. Vivian, Bart., of Glynn, sent four large cucumbers, each above 26 in. in length: they were of a fine growth and colour, and attracted much attention. The contributions of Mr. Pontey and Mr. Rendle, nurserymen, were much admired; and the cottagers' prizes were excellent. (*Ibid.*, July 30.)

Sept. 10. The plants sent by Mr. Rendle and Mr. Pontey, constituted the chief beauty of this exhibition, as there were much fewer plants shown for prizes than usual. The cottagers' prizes were, however, numerous and excellent. (*Ibid.*, Sept. 17.)

North Devon Horticultural Society. — Oct. 9. There was a very beautiful display of flowers and plants, and the fruits and vegetables were unusually fine. There was a numerous and very genteel attendance; and a number of prizes were awarded.

DORSETSHIRE. — *Dorset Horticultural Society*. July 8. Some beautiful fruits were shown from the gardens of the Earl of Ilchester, Robert Pattison, Esq., Robert Williams, Esq., and John Goddens, Esq.; and some fine plants from Harris's Nursery at Upway. Only two cottagers' prizes were awarded, and both were gained by Joseph Sims. (*Dorset County Chronicle*, July 9.)

Sept. 16. The magnificent and tasteful bouquets from the gardens of the Earl of Ilchester, John Goodden, Esq., and R. Pattison, Esq., were particularly splendid and attractive, and excited general admiration. The fruits were of the choicest and most luxuriant description; and every department was skilfully managed for the display of the numerous articles for competition, with which the spacious room was adorned. (*Salisbury and Wiltshire Herald*, Sept. 26.)

DURHAM. — *South Durham and Cleveland Horticultural Society*. April 16., May 21., July 23., and Sept. 10. The first of these meetings was principally for auriculas and polyanthuses. Among the other plants, the first prize for shrubs (the *Magnolia conspicua*) was gained by Mr. T. Stephenson, gardener to John Pease, jun., Esq., M. P., of South End, Darlington; and the second, third, and fourth were for fruits, flowers, and vegetables; at all of which Mr. Stephenson, and Mr. Byers (gardener to Jonathan Backhouse, Esq., of Darlington), seem to have gained most prizes. (*Durham Chronicle*, May 1., May 29., July 31., and Sept. 25.)

The West Rainton Florists' Society. — April 25. This was the annual show for auriculas (the best was Charles XII.), hyacinths (Don Carlos), and polyanthuses (tantarum). (*Ibid.*, May 1.)

GLOUCESTERSHIRE. — *Bristol and Clifton Horticultural Society* presented one of the most splendid collections of autumn fruits ever remembered to have been witnessed. The dahlias, and German and China asters, were also very attractive. The extra prizes called forth much competition; and the successful exhibitors of dahlias may pride themselves on having excelled in a department to which every year's culture is adding new specimens and increased beauty. The cockscombs were also in fine perfection. (*Bath and Cheltenham Gazette*, Sept. 22.)

HAMPSHIRE. — *Hampshire Horticultural Society*. March 12. There was a large collection of beautiful plants, flowers, fruits, and forced vegetables, particularly asparagus. A hybrid rhododendron, by the Rev. T. Garnier, won a prize. A great variety of seeds and grafts were distributed after the exhibition. (*Hampshire Chronicle*, March 16.)

HEREFORDSHIRE. — *Hereford Horticultural Society*. April 23. The broccoli, was large and of excellent quality, as were likewise the cabbages. The new potatoes, French beans, strawberries, mushrooms, and cucumbers were greatly admired; but the sea-kale was not so good as last year. The apples were well-preserved specimens, one plate of which, exhibited by Mr. Cranston, from a seedling, was of exquisitely rich flavour: it appears to be nearly allied to that

old favourite the golden Harvey. The hyacinths were well bloomed, but the auriculas and polyanthus were not so numerous as on previous occasions, many collections of auriculas having suffered greatly during the last winter. (*Hertford Journal*, April 29.)

May 13. Forty-four more specimens were entered than at the corresponding show in 1834; a proof that the Society does not retrograde. The tulips were, all things considered, excellent, including two seedlings of high character, the first ever shown here, which had well merited prizes awarded for them. No anemones were shown; and, though the pelargoniums were generally well grown, some of the best did not carry prize tickets. The display of greenhouse and stove plants, considering the weather, was good; but there were no green peas, the late weather having generally destroyed the early crop. A subscriber exhibited a small monument or pillar supporting a vase, in which appeared a weeping willow in a growing state, surrounded with a wreath of cypress and yew, and on a scroll attached the owner stated his intention of planting out and cherishing the willow, in memory of the late unfortunate Douglas. A subscriber also exhibited two specimens of earthen pans made for the purpose of protecting plants from slugs, &c. (*Ibid.*, May 21.)

HERTFORDSHIRE.—*Hertford Horticultural Society*. April 21. The first prize was given by Mr. Spears, gardener to Sir Abraham Hume, Bart., for a specimen of *Telopea speciosissima*, and the second by Mr. Pratt, gardener to W. Harrison, Esq., Cheshunt, for forced American plants. Many other fine plants were sent by other gentlemen in the neighbourhood, and by Messrs. Paul and Son of Cheshunt, and Mr Francis of Hertford, nurserymen. (*County Press*, April 25.)

June 16. The fruits were very fine, particularly some apples kept from the last year. The cottagers' prizes were excellent; and, amidst the glittering and dazzling hues of the choicest flowers, the specimens of double stock, and bouquets of flowers in neat brown earthen vases, drew forth warm admiration. (*Ibid.*, June 20.)

July 28. The great heat of the weather was very unfavourable to flowers of all kinds; but we were gratified by seeing some very fine varieties of roses, still in great beauty, and several collections of beautiful cut flowers, in great variety and quite fresh, particularly those from the garden of W. Harrison, Esq., at Cheshunt. The finest fruits were six beautiful Enville pines, from Earl Cowper's garden at Panshanger. A few plates of very well kept apples were also exhibited. There was a very fine collection of stove exotics from the garden of Sir Abraham Hume, Bart., at Wormleybury, including *Francœa racemosa*, and other rare plants. A very fine bouquet of flowers was exhibited by James Welsh, a cottager, at Essendon; who also brought on this occasion a brace of fine cucumbers, a plate of apples, and a tray of carnations. Two specimens of the *greffe des charlatans*, or orange trees appearing to be grafted with roses, jasmine, &c., were exhibited by Earl Cowper; and a superb bouquet of cut flowers, and a collection of greenhouse plants, were sent by Mr. Francis, nurseryman, of Hertford. (*Ibid.*, Aug. 1.)

Aug. 25. The dahlias were the principal flowers exhibited on this occasion; but a great number of choice greenhouse and stove plants were sent from the gardens of Sir Abraham Hume, Sir Henry Meux, &c. Two cucumbers nearly 4 ft. long, were exhibited by Mr. Dawson, gardener to Earl Cowper. (*Hertford Reformer*, Sept. 1.)

LEICESTERSHIRE.—*Hinckley Floral and Horticultural Society*. Sept. 30. The dahlias were numerous, and there were many truly splendid blooms. A beautiful device of a crown, and the initials of our much venerated sovereign, very tastefully formed of different-coloured dahlias, ornamented one end of the room, and an enormous star of asters, formed in the meshes of a sieve, was suspended beneath it. The hardy fruits, and many of the vegetables, elicited the most unqualified approbation. There was also a beautiful collection of dahlias, sent by Mr. Warner, Leicester Abbey.—It is gratifying to observe that the florimania is increasing; as Nuneaton, so long celebrated for its

manly sports, has just formed a society of this nature. (*Leicester Chronicle*, Oct. 10.)

LANCASHIRE. — *Show of Dahlias. Zoological Gardens, Liverpool, Sept. 24.* Amongst the numberless beautiful varieties of the dahlia exhibited, Mr. Skirving's seedling attracted the most attention : it was considered by the judges to be the best dahlia that has ever been shown. The colour is white, tipped with fine pink, and the flower large and most elegantly formed.

NORFOLK. — *Norwich Horticultural Society. Feb. 4.* This was the anniversary meeting of the Society, and the accounts were given in ; when it appeared that, besides 344 silver medals, and 320 bronze ones, the Society had given away in prizes, since its institution in October, 1829, 36 silver table-spoons, 114 dessert spoons, 54 sugar-tongs, 308 tea-spoons, and 116*l.* 5*s.* in money. The thanks of the Society were voted to Richard Crawshay and Charles Turner, Esqrs., and also to Mr. Mackie for the abundant contributions of flowers, &c., with which he never fails to enrich the exhibitions, at the same time declining to accept the prizes which would be so frequently awarded to him ; and for the additional encouragement given by him to gentlemen's gardeners, in having offered, as an extra prize, the best floricultural work of the present day, to the gardener who should obtain the most prizes for flowers in the year 1834. (*Bury and Norwich Post*, Feb. 24.)

An exhibition of this Society took place in November, 1834, which, as the account of it reached us too late for insertion in its proper place, we shall here notice. The display of fruits (particularly of grapes and apples) was very fine, and many of the vegetables were gigantic. There was also a most superb array of chrysanthemums, in which the cottagers surpassed even the subscribers. (*Ibid.*, Nov. 20. 1834.)

Holt Horticultural Society. — Nov. 12. 1834. A Spanish radish weighed 4 $\frac{3}{4}$ lb. ; and eight pears, from W. Norris, Esq., of Wood Norton, weighed 16 $\frac{1}{2}$ lb. The impératrice plums, from W. Hardy, Esq., were much approved. Lady Anne Coke obtained the first prize for the best dozen chrysanthemums. Mr. Dover of Norwich showed 31 specimens (not for a prize) of first-rate sorts ; one of which, we think, was the best in the hall. W. Cozens, Esq., had some very good ones, and a very good collection of dahlias. The out-door Frontignac grapes, by Mr. Joy of Roughton, were generally praised, and obtained the first prize ; some very fine out-door white grapes were also shown, by J. Thomlinson, Esq., of Clay. The finest hot-house grapes were shown by Lady Anne Coke ; the next best by W. J. Brereton, Esq. There was a pretty variety of exotics : the one which drew most attention was a *Blëtia hyacinthina*, from Holkham Hall. The cottagers are slower in bringing forth their productions than could be wished ; but their table presented many instances of industry and economy, which were rewarded accordingly. (*Ibid.*)

July 8. 1835. The Shire Hall was not sufficient to contain all the contributions ; and it was filled, almost to suffocation, by a very respectable attendance : the show was excellent. We understand that Sir Jacob Astley, Bart., is about to present this Society with a medal die, similar to the one he lately presented to the Dereham Society. (*Ibid.*, July 15. 1835.)

Dereham Horticultural Society. — June 29. This was the first exhibition ; and, so far as respects the company, and the productions contributed by the subscribers, this infant Society has already attained all the vigour of maturity. The cottagers' table was thinly covered ; but the distribution of 2*l.* 6*s.*, in 16 prizes, will no doubt operate as a stimulus for the future. (*Ibid.*, July 8.)

Diss Horticultural Society. — July 2. Notwithstanding the unfavourableness of the season, the fruits were of the finest description, particularly the strawberries, of which there was an abundant supply. The cottagers' display was particularly good, and we have rarely witnessed a better exhibition. After the *déjeûner*, Mr. G. Thurtell delivered a most instructive lecture "On the Pruning of Forest Trees." It was attended by several gentlemen residing in the neighbourhood, who are cultivators of trees to a considerable extent, all

of whom expressed themselves satisfied with Mr. Thurtell's system of fore-shortening. Some of the audience, indeed, brought their own experience to prove the correctness of his theory, and the great tendency which the common plan of close pruning has, not only to retard the growth of wood, but actually to engender an internal canker, which, while the tree is to all appearance flourishing and in perfect health, frequently renders the fruit utterly valueless when brought to the market. (*Bury and Norwich Post*, July 8.)

Yarmouth Horticultural Society.—*July 8.* Mr. Youell contributed very liberally towards the show, in sending a superb collection of pelargoniums, and a variety of other exotic plants, amounting to 174 specimens, among which was a *Hoya carnosa*, grown by him from a leaf in 1831, which excited universal admiration for the number (120) of splendid blossoms it bore. Mr. Thurtell also exhibited a variety of choice flowers and fruits, which were greatly admired. Mr. Roe sent some splendid peach trees in fruit, and an assortment of choice grapes and nectarines; and nearly all the nobility and gentry in the neighbourhood sent specimens of different kinds of flowers and fruit. The cottagers' show was very good. (*Norwich Mercury*, July 18.)

North Walsham Horticultural Society.—*July 22.* This was only the second meeting of the Society, but it was an excellent one; nearly all the nobility and gentry in the neighbourhood sending specimens. A dish of ripe guavas, and a beautiful seedling spiræa, sent by Mr. Ross, gardener to Sir Harry Durant, were very much admired, and Mr. Ross's strawberries were thought the finest in the room. The cottagers' prizes were numerous. (*Norfolk Chronicle*, Aug. 1.)

Norwich Florists' Show.—*July 29.* This show was for carnations and picotees. S. Martin, Esq., sent nearly 100 pots of carnations; and Mr. Youell of Yarmouth, Mr. Mackie, John Large, Esq., &c., fine collections of carnations and picotees, and of green-house and other plants. (*Ibid.*)

NORTHAMPTONSHIRE.—*Brampton and Wath Horticultural Society.* *June 18.* One object of this Society is to induce cottage gardeners to cultivate their plots of ground with all possible neatness and profit. A profusion of flowers, fruits, and vegetables, was displayed on the occasion; and viewed with much pleasure and interest, from two o'clock till five, by a numerous assembly. The flowers exhibited for prizes were pinks, pansies, and ranunculuses, which, grouped in their respective classes, presented one of the most delightful treats that a florist can enjoy. The fruits also, and the vegetables were excellent, evincing in them who grew them, no little skill and attention. (*Doncaster, Nottingham, and Lincoln Gazette*, June 26.)

NORTHUMBERLAND.—*Newcastle Horticultural and Botanical Society.*—*March 6.* The hyacinths, amaryllises, and jonquils were very beautiful: 15 varieties of the polyanthus narcissus were shown, from the garden of J. G. Clarke, Esq., Benwell Lodge; and a dish of 40 kinds of seedling apples was sent by M. Hall, Esq., Beacon Lough. (*Newcastle Courant*, March 21.)

May 1. The best auricula was Grimes's privateer; the best polyanthus, Johnson's May-day; and the best pelargonium, Mary Queen of Scots. Very fine apples were shown from the crop of the preceding year. (*Ibid.*, May 9.)

May 29. This show was principally for tulips, fruits, and vegetables. Among the latter were some Egyptian kidney potatoes, and some peas, both grown in the open ground. (*Ibid.*, June 6.)

July 3. There were 30 varieties of *Calceolària* exhibited, from the garden of the Rev. R. H. Brandling, Gosforth, and some beautiful seedling pansies, from the garden of Mrs. Smart, Heworth. The orange tree exhibited by J. G. Clarke, Esq., was myrtle-leaved, and the most splendid specimen ever seen in this neighbourhood, there being above 100 fruits upon it. The flowers were also very splendid; but, owing to the lateness of the season, which the gardeners say is full three weeks later than last year, there was only one dish of strawberries and one dish of cherries. (*Ibid.*, July 11.)

Aug. 21. Wilson's variegated seedling cabbage was the most remarkable of the vegetables; and three seedling peaches, of the most delicious flavour, from the garden of Mrs. Bewicke of Close House, and two pots of grapes, on the

coiling system, from the garden of Nathaniel Grace, Esq., of Scotswood, of the fruit. (*Newcastle Courant*, Aug. 29.)

Oct. 2. The first prize was gained by Mr. George Dale, gardener to W. Russell, Esq., Brancepeth Castle, for the heaviest pine-apple (Providence); weight 6lb. 13oz.; the best dish of dessert apples of sorts, and the best dish of plums of sorts. There were two beautiful dishes of seedling apples, from the garden of Edward Charlton, Esq., of Sandhoe, and Edward Charlton, Esq., of Hesleyside: the one from Sandhoe contained a very large, firm, and fine apple, of the most delicious flavour, from the seed of the Ribston pippin; and, should it prove to be a good keeper, will be a most valuable acquisition to this country. The whole of the fruits exhibited were of the finest quality. The prize dish of apples, from Brancepeth Castle, containing 25 different varieties, all of the very best quality, were much admired. The bouquets were very splendid. (*Ibid.*, Oct. 10.)

Felton Florists' Society. — *May 2.* This show was for hyacinths (the best of which was the groot voorst), auriculas (Schofield's Hebe), and polyanthus (princess). (*Ibid.*, May 9.)

May 30. Roses and heartseases were the principal objects exhibited; and Mr. Thomas Henderson, Mr. Thomas Dawson of Acklington, and Mr. B. Burn of Linden House, were the most successful competitors. (*Ibid.*, June 6.)

Sept. 26. The dahlias shown on this occasion were very fine. Mr. Dawson's Acklington won the first prize. (*Ibid.*, Oct. 10.)

Bedlington Horticultural and Floricultural Society. — *May 1.* This was the annual show of auriculas and polyanthus. The best auricula was Metcalf's Lancashire hero; and the best polyanthus, Pearson's Alexander. (*Ibid.*, May 9.)

Winlaton Florists' Society. — *June 1.* The annual show of tulips was held on this day; and the first prize, for the Duke of Lancaster, was gained by Mr. W. Cowen. (*Ibid.*, June 6.)

Cromlington Florists' Society. — *May 30.* This was the annual show of tulips; when Mr. John Lynn, with rose primo, and rose triomphe royal; and Miss Straker, with Maddox's yellow rose, won the first prizes. (*Ibid.*, June 6.)

NOTTINGHAMSHIRE. — *Newark Floral and Horticultural Society.* *Oct. 22.* The dahlias from the garden of the Rev. J. C. Giradot of Averham, and from that of Mr. Moore of the Castle and Falcon Inn, were among those most admired. The flowers and fruits shown by Mr. Sheppard, gardener to Lady H. M. Sutton, did him great credit, more especially his seedling peach, named Sheppard's superb. (*Nottingham Review*, Oct. 9.)

Ilkeston Florists' and Horticultural Society. — *Dahlia Show.* *Oct. 5.* The names of the best flowers were, the queen of the dahlias, purpurea alata, Springfield rival, Countess of Liverpool, Drycot's Elizabeth, Aurora, Neptune, emperor of the yellows, and Mrs. Wilkinson. The most successful candidate was Mr. Wade. (*Ibid.*)

Lenton Dahlia Show. — *Oct. 5.* The principal prizes were handsome parlour tea-kettles, and cut tumblers; and some very fine flowers were shown. The most admired were, Lee's perfection, Polyphemus, and Black Prince; and some beautiful seedlings raised by Mr. Spencer, one of which gained the first prize. (*Ibid.*)

New Lenton Dahlia Show. — *Oct. 5.* The first prize was gained by Mr. Robert Rolliston, with the village maid, and five others. Among the fruits, the first prize was gained by Mr. L. Hall, for an apple, the Newtown pippin, which weighed 1 lb. 3 oz. (*Ibid.*)

Radford Spring Show. — *April 23.* Several amateurs honoured the exhibition with their presence, and pronounced it the best that has been witnessed in this neighbourhood for some years past. A beautiful collection of pansies from Mr. G. Bowley, an exceedingly fine pelargonium from Mr. Redgate, together with several other choice flowers, formed a high treat to every admirer of florists' flowers. The auriculas, polyanthus, and hyacinths, were very fine (*Ibid.*, May 2.)

SOMERSETSHIRE. — *Bath Royal Horticultural and Floral Society. Dahlia Show. Sept. 17.* The first object which met the view was a most singular figure on the right-hand lawn : it was that of a Mexican chief, holding a basket of flowers: the whole figure was composed of dahlias, which, as our readers well know, came originally from that country; and, difficult as the task must have been, even the features of the countenance were very ingeniously delineated. This figure exhibited not less than 150 varieties of the dahlias in every imaginable tint, and of every gradation of size. A little beyond was the branch of a tree of considerable size, the trunk, and every part, being also covered with dahlias of an equal number of varieties, and equally diversified in the colour and size of the flowers. These, together with two stands of dahlias, comprising 100 varieties, were sent by Mr. Salter of Kensington Nursery; whose very numerous contributions of beautiful plants were at this, as at all preceding exhibitions, sent, not for prizes, but to aid and ornament the Society's shows. A superb *Erythrina Crista-galli*, sent by J. Newby, Esq., of Upper East Hayes, and a most brilliant scarlet egg plant, and a noble thunbergia, trained upwards of 10 ft. high, sent by H. Nugent, Esq., were also much admired. There was also a numerous and brilliant collection of cut specimens of zinnias (splendidly bright, and comprising many new varieties), German asters, and dahlias, most liberally sent, for exhibition only, by Mr. Veitch of Exeter. Among the other plants worthy of notice were, a large collection of beautiful crinums, allowed to be remarkably fine; cockscombs of prodigious size; a superb *Thunbergia leucantha*, sent by — Jarrett, Esq., eugenias, *Ixora crocata* in full flower, a great variety of egg plants with fruits of every hue and size, together with a remarkably fine basket of balsams, all sent by — Batsford, Esq., of Weston Lane; a great number of varieties of amaryllis, exquisitely beautiful, by A. C. Boode, Esq., of Lucknam; and some very fine ericas, by A. Whitaker, Esq., of Frome. The fruit comprised pines of various sorts; the edible passion flower (fruit and flower), of which superb specimens were sent by Mr. Miller of Bristol; melons of every species and growth, some distinguished for flavour, others for size, and others for the mode of culture (among the two latter were the melo chamberi, of enormous size, and two others grown in a cold frame, without any artificial heat whatever); plums of every sort, of which the most striking were the "Fonthills," grown by Col. Houlton; peaches, nectarines, grapes cut and in pots, of various sorts; figs, pears, apples, cherries, currants, filberts, Spanish nuts, tomatoes, capsicums, chilis, &c. The bloom and freshness in the appearance of the fruit were heightened from the circumstance of many of the dishes being garnished with the ice plant. The vegetables were greatly admired; also spinach (new sort); and among them we observed *Oxalis crenata*. On the opposite side were specimens of the same description of vegetables, together with some apples of enormous size, sent by the competitors for the cottage prizes, which reflected the highest credit on their culture. A collection of botanical specimens, found in the neighbourhood of Bath, was sent by Mr. Kitley of Pulteney Road. There was also an exhibition of drawings of flowers, originals and copies, for which the Society this year had decreed prizes, all which were allowed to possess great merit; but the first prize was gained by Miss M. Rosenberg of Walcot Parade, for a cabbage leaf with currants white and red, exquisitely painted (original). The second prize was awarded to Mrs. H. St. John Maule, the lady of the honorary secretary, for a highly finished drawing of a prize carnation (copy). Mr. King of the market-place exhibited a number of tasteful, ingenious, and improved flower-stands, garden chairs, garden implements, models of conservatories, green-houses, hot-houses, &c. Mr. Smith of Union Passage also sent to the exhibition specimens of various kinds of rustic chairs, garden seats, &c. (*Bath and Cheltenham Gazette*, Sept. 22.)

Taunton and West Somerset Horticultural Society. — May 13. The first prize for exotic plants was awarded to R. M. King, Esq., for a "new plant from New Zealand, of the *Edwardsia* genus;" no doubt, the *Clíanthus puniceus*.

The tulips were very fine, and the nurserymen who won prizes for them were, Mr. Hardland, Messrs. Lake and Evans, and Mr. Young. (*Dorset County Chronicle and Somersetshire Gazette*, May 28.)

Glastonbury Horticultural and Floral Society. — *Sept.* The dahlias and asters were exceedingly fine, especially those from the nurseries of Giddings and Rees of Wells, Hammond and Stephens of Taunton, and Lake and Evans of Bridgewater. We observed some very fine oranges and lemons from the gardens of W. P. Jillard, Esq., of Oakhill; and the pines from the same gardens, and those from the gardens of Lee Lee, Esq., M. P., and Mrs. Strangways of Shapwick, were particularly fine. (*Sherborne Journal*, Sept. 10.)

SUFFOLK. — *Bury Horticultural Society.* *July 7.* The show of flowers and fruits was excellent, particularly those sent by the cottagers. Mr. Girling of Stow Market, exhibited seventy-two varieties of roses; and Mr. Middleditch showed cucumbers 20 in. long. (*Bury and Norwich Post*, July 15.)

Sept. 25. The dahlias and the fruits were fine, but the competition for the prizes for vegetables was not so great as we have seen. The cottagers' tables were well covered; and were remarkable for a quantity of honey obtained by deprivation. One cottager in particular (Ashman), to whom a reward of 10s. was given, has obtained from one swarm of bees, purchased in May, 1834, forty-six pounds of fine honey, and three excellent stocks of bees, worth about 6l. (*Ibid.*, Sept. 30.)

Stow Market Horticultural Society. — *Sept. 22.* This was the first meeting of this Society, and there was an excellent display. (*Ibid.*)

Beccles Horticultural Meeting. — *July 3.* Mr. R. Thornton sent a large stand of pelargoniums and calceolarias, which did credit to his gardener, Mr. H. Gill; Mr. Bircham's (florist) collection of 100 sorts of roses was much admired; Mr. Gill (nurseryman) sent some rare and new roses; Messrs. Fenn and Laws (nurserymen, who decline receiving prizes), 43 pots of calceolarias, and other green-house plants, &c. From some unknown reason, the fruit table was not so well furnished as we expected: the vegetables were very fine; and what gave us great pleasure was the cottagers' table, whose vegetables rivalled the subscribers'; 25 prizes were awarded them. (*Ipswich Journal*, July 11.)

SURREY. — *The South London Horticultural Society*, established in 1834 as the East Surrey Floricultural Society, is, we understand, in a prosperous state. Their summer shows are to be held in the Surrey Zoological Gardens; and they intend to have meetings, lectures, library, and various other requisites. The list of subscribers comprises nearly all the first florists about London.

Oct. 27. A lecture was delivered by Charles Johnson, Esq., professor of botany at Guy's Hospital, &c., and specimens of plants, and other productions interesting to floriculture, were exhibited.

SUSSEX. — *Newick Horticultural Society.* *Sept. 10.* We noticed a fine collection of plants and heaths in pots, and a hundred varieties of dahlias, exhibited by Mr. Cameron of Uckfield; Mr. Mitchell of Pilt Down exhibited a splendid collection of the choicest dahlias, and good specimens of China and German asters; Mr. Pierce of Pilt Down, some fine African marigolds and Indian pinks; Mr. Mantell of Newick, a stand of beautiful seedling dahlias, including several blooms of the purple seedling which obtained a prize at the last meeting of the Metropolitan Society of Florists, and was named in compliment to the patroness of the Newick Society, the Countess of Sheffield. Mr. Read, Earl of Abergavenny's gardener, exhibited a splendid collection of dahlias, comprising nearly 150 distinct varieties, and a fine specimen of the bottle gourd, which, from its novelty, excited considerable attention. We also noticed a hive of honey from the improved cottage-hive, presented by J. Hurdis, Esq., Newick; to whom also the Society is indebted for a beautiful drawing, in aid of the cottagers' fund. One of the great attractions of this meeting was the display of dahlias for the sweepstakes. The cottagers' productions were so excellent, that a great number of extra prizes were awarded; those cottagers who did not obtain prizes received each one shilling, and all a ticket of admission to the exhibition. (*Sussex Advertiser*, Sept. 21.)

WARWICKSHIRE. — *Birmingham Botanical and Horticultural Society.* — April 9. Considerable novelty was shown in the arrangement of the plants in flower, by which they were seen to greater advantage than usual. The Orchideæ were well contended for between the gardener of Lord Grey of Groby (T. Beddard), Messrs. John Pope and Sons, the gardener of John Willmore, Esq. (T. Williams), and Mr. John Horton; and it was apparent, from the beautiful specimens exhibited, that the successful cultivation of this “splendid family of plants,” is rapidly on the increase in the neighbourhood of Birmingham. The narcissi (in pots) from the gardens of Messrs. Pope and Sons, and Mr. John Moore of Barr, were admirably displayed, and excited much attention. A fine plant of *Andrómæda floribunda* (not for competition) was sent by Mr. John Hardman; and two fine seedling polyanthus were shown by Messrs. Pope and Sons, of the Handsworth Nursery. (*Aris’s Birmingham Gazette*, April 13.)

May 13. The fruits and vegetables were good for the season, and the display of plants, for new and rare specimens, far surpassing any collection previously exhibited in Birmingham. The fine-grown and well-flowered specimens of common plants were also more numerous than usual: among them was a remarkably fine plant of *Kennèdya coccinea*, from James Taylor, Esq., and also some beautiful specimens furnished by George Barker and John Willmore, Esqrs. Messrs. John Pope and Sons, as usual, supplied some good herbaceous and alpine plants, from their extensive nursery at Handsworth; and some specimens of merit, of the same kind, were sent by Mr. Moore of Perry. From the gardens of Mrs. William Willmore was received a selection of pelargoniums, part of them raised from seeds by herself. A showy *Musa coccinea*, from Mr. William Chance, and some early balsams from Mrs. Taylor of Moseley Hall, added much to the effect of the exhibition. (*Ibid.*, May 18.)

Warwickshire Floral and Horticultural Society. — *Spring Show.* The best hyacinth, the groot voorst, was shown by Mr. H. Kendall; the best auricula, ne plus ultra, by Messrs. Pope; and the best polyanthus, Pearson’s Alexander, by Mr. C. Fletcher. Besides these, several very fine flowers were shown by Dugdale Houghton, Esq., Mr. C. Hyrons, Mr. C. Adkins, &c. (*Birmingham Advertiser*, May 7.)

Sept. 17. The prize for the best dahlia, the Countess of Liverpool, was gained by Sir Charles Throckmorton, who exhibited fine seedlings. J. Willmore and D. Houghton, Esqrs., had also some fine seedlings; and many very beautiful and rare exotic plants were exhibited by Mr. J. Horton, Mr. Kendall, Mr. D. Houghton, Mr. Willmore, &c., with many fine specimens of fruit. The cottagers’ and artisans’ prizes were excellent; and, altogether, a taste for horticulture and floriculture seems rapidly increasing in this neighbourhood. Sir Robert Peel and Sir Eardley Wilmot have added their names to the list of patrons of this Society; and the latter gentleman has very liberally given 5*l.* additional to the cottagers’ prizes.

WILTSHIRE. — *Wilts and General Horticultural Society.* — April 7. Amongst the attractions in the room, there was a beautiful little camellia in most perfect flower, from the conservatory of Dr. Fowler; and a pretty specimen of the *Acacia affinis* [dealbata], which has been in full flower for some time past in the open ground, cultivated by the Rev. J. Heathcote, at Bramshaw, the seed of which was sent from New South Wales by a son of W. Windham, Esq., of Dinton, in this county; and the plant itself has now attained the height of 15 ft. A great number of rare and beautiful plants were exhibited, particularly from the stoves and gardens of the Hon. Mrs. Harris, A. B. Lambert, Esq., the Earl of Radnor, Col. Baker, Mrs. Batt, the Bishop of Salisbury, &c. The fruits and vegetables, and the cottagers’ prizes, were also very good. (*Salisbury and Wiltshire Herald*, April 11.)

May 16. and July 24. The plants exhibited by the Hon. Mrs. Harris, at both these shows, far surpassed those of any other competitor, particularly her Cape bulbs. Wadham Wyndham, Esq., M.P., had the best vegetables. (*Ibid.*, May 7. and Aug. .)

Aug. 25. Mr. Hughes, gardener to C. B. Wall, Esq.; Mr. Dodd, gardener to Col. Baker; Mr. Christian, gardener to the Earl of Radnor; Mr. Dunbar, gardener to Mrs. Batt; and Mr. Alford, gardener to Thomas King, Esq., were the most successful candidates. (*Salisbury and Wiltshire Herald*, Aug. 29.)

Sept. 10. Mr. Jumber, gardener to A. B. Lambert, Esq., gained the first prize for the best stove plant; B. Estcourt, Esq., the second and third; and the Hon. Mrs. Harris, the fourth. We must also mention that a number of plants were sent from the conservatories of W. W. Salmon, Esq. (not for competition); likewise a box of beautiful seedling dahlias, grown by Mr. Downey. (*Salisbury and Winchester Journal*, Sept. 12.)

Salisbury and West of England Dahlia Show.—Sept. 9. This exhibition was an excellent one, and it was numerously and brilliantly attended. Mr. Wheeler of Warminster showed the best seedling. (*Salisbury and Wiltshire Herald*, Sept. 26.)

Marlborough Annual Dahlia Show.—Sept. 18. The best seedlings were raised by Mr. Butler, gardener to Thomas Smith, Esq., Ramsbury, and Mr. Whale, gardener to Charles Bacon, Esq., Elcot House. Mr. Bates of Oxford produced a very superior collection of blooms; but, on finding that the competitors consisted chiefly of amateurs, he, in a very handsome manner, declined showing. Mr. Sparry, gardener to G. H. Cherry, Esq., Denford House, produced a gourd weighing 179 lb., which measured 7 ft. in circumference. The exhibition was very numerously attended by visitors from the town and neighbourhood. (*Ibid.*)

Chippenham Dahlia Show.—Sept. 11. Mr. Wheeler of Warminster was the most successful candidate: as, for his seedlings of 1834 and 1835, he gained prizes to the value of 8l. The flowers, generally speaking, were very fine. (*Salisbury and Winchester Journal*, Sept. 12.)

YORKSHIRE.—*North Riding Horticultural and Floricultural Society.* September 18. There was a splendid display of dahlias, which was greater than any that had been exhibited since the establishment of the Society. The exotic and green-house plants were not so numerous as upon former occasions. The chairman, the Rev. J. W. Mosley, pointed out to the notice of the company the remarkably fine productions of vegetables, which were in great abundance and of the first order, particularly those exhibited by the cottagers, whose specimens crowded the table allotted to them. (*The York Courant*, Oct. 8.)

West Riding Horticultural Society.—July 15. The arrangement and classification of this show appeared to us excellent, and well adapted to present to the eye of every beholder in all parts of the spacious apartment, a favourable view of the whole collection. A platform, raised at the upper extremity of the room, for the judges who awarded the distribution of the different prizes, and the curators, together with the president and vice-presidents, was surmounted by an arch finely festooned and decorated with a tastefully intermingled variety of the rarest and most beautiful flowers, in gay and fanciful devices; over the centre of the arch was a crown and diadem fashioned in flowers of variegated hues, all of them, as the president subsequently announced, of the culture of Mr. Barratt, proprietor of the botanic and other extensive gardens in the immediate vicinity of Wakefield. Two large pine-apples, one weighing 8½ lb., and the other 8 lb., were shown by Mr. Taylor, from Lady Gordon's of Temple Newsam. Some grapes were exhibited by the gardeners of B. Gaskell, Esq., Thornes House, and J. Hebblethwaite, Esq., Leeds. The specimens of peaches, nectarines, apricots, melons, and, above all, of the oranges and lemons, were extremely fine, as indeed were those of the various other fruits exhibited. The flowers were also very good. (*West Riding Herald*, July 21.)

East Riding Horticultural and Floral Show.—May 13. The plants were exhibited in a marquee, the top of which was ornamented with festoons of evergreens, among which were intermingled various flowers and herbaceous plants; whilst at the end, immediately over the station allotted to the presi-

dent, was a most magnificent bouquet, forming a crown, composed of the flowers of rare and exotic plants, surmounted by the royal arms gilt; above which were the letters W.R., formed wholly of anemones; and, towering above the whole, the Prince of Wales's feathers, composed of the same flowers. This splendid ornament was furnished from the garden and conservatories of Richard Bethell, Esq., M.P.; the ironwork being made by Mr. Crosskill, and the universal delight with which it was viewed fully testified how highly the kindness of Mr. Bethell was esteemed. The greatest contributor of plants was R. F. Shawe, Esq., of Brantingham Thorpe; and, among the splendid specimens sent from his garden, we noticed a very fine assortment of calceolarias, raised by Mr. Laing, his gardener, from seeds comprising nearly 30 varieties. Among the other contributions were a collection of double anemones, raised by Mr. Usher, gardener to Lord Hotham; and several baskets of iron-work filled with flowers and plants; the baskets being manufactured by Mr. Crosskill of Beverley. (*Hull, East Riding, and North Lincolnshire Gazette*, June 9.)

Sept. 2. The principal attractions of this meeting consisted in a splendid collection of fuchsias, sent by R. F. Shawe, Esq.; and in Mr. Crosskill's flower-stands and iron trelliswork; the latter forming a magnificent crown, covered with flowers sent from the conservatories of R. Bethell, Esq. The cushion on which the crown rested was principally formed of *Hoya carnosa*; whilst the crown itself consisted of a great variety of pelargoniums, stocks, hoyas, cactuses, &c. (*Hull Advertiser*, Sept. 4., and *Hull Observer*, Sept. 8.)

Hull and East Riding Floral and Horticultural Society.—April 27. The best auricula was Kenyon's ringleader, shown by Mr. Deighton; who exhibited also the best polyanthus, (Alexander). The best hyacinth was the sceptre d'or, shown by Mr. Burman. (*Hull, Rockingham, &c.*, May 1.)

May 28. The tulips, pelargoniums, esculents, and heaths were of a high order. The specimens of fruits and vegetables were very fine, and prove that, within the last ten years, garden cultivation has wonderfully progressed. The proof of the utility of this Society is not confined to these exhibitions: it is seen in our weekly markets, of which the stalls are supplied with vegetables, increasing, every year, in delicacy of taste and beauty of form. (*Ibid.*, May 30.)

June 24. The best ranunculus was the Princess of Wurtemberg, shown by Mr. Dobson. (*Hull Advertiser*, June 26.)

July 2. The best pink was Janson's Lady Miller, shown by Mr. Burman; and there were several fine seedlings. The best rose was the Tinwell moss, shown by Mr. Burstall. (*Ibid.*, July 10.)

Aug. 3. The best carnation was Cartwright's rainbow, shown by Mr. Dobson; the best red gooseberry was the roaring lion, and the best green, green ocean; both shown by Mr. Simpson: the best yellow, rockwood; and the best white, eagle; the two latter being shown by Mr. England. (*Ibid.*, Aug. 7.)

Sept. 23. The best dahlia was Widnall's perfection. The flowers, fruits, and vegetables were all good, and were much admired. (*Ibid.*, Oct. 2.)

Doncaster Horticultural Society.—April. This exhibition was principally for pelargoniums, azaleas, and rhododendrons. There were, however, also some very fine vegetables. (*Doncaster Gazette*, May 1.)

June 24. The pelargoniums, calceolarias, fuchsias, ranunculuses, and pinks were very excellent; and the stove plants were numerous and superior. The British plants were particularly noticed, especially the *Pýrola rotundifolia* of the Rev. L. Hobson, and the rock plants of Mr. J. L. Crowther of Bennithorpe. Two hardy bouquets, one from Mr. Hopkinson, and the other from Messrs. Crowder, were much admired. The exhibition of fruits was numerous, and of a very superior description. A pine-apple, from the Rev. T. C. Read, weighed 6 lb. 13 oz.; and the vegetables sufficiently evinced how much can be attained by attentive and skilful cultivation. Mr. Crowcroft exhibited a specimen of rhubarb, the stalk of which measured $6\frac{1}{2}$ in. in circumference. (*Ibid.*, June 26.)

July 29. The show of carnations and dahlias, considering the extremely dry state of the weather, was numerous and beautiful, and the pelargoniums were particularly attractive. There was also a very extensive display of fruit of almost all descriptions: the grapes were exceedingly fine. (*Doncaster Gazette*, July 31.)

Sept. 30. The dahlias and other flowering plants were very fine; but they were much excelled by the fruit and vegetables, which were excellent. (*Hull Advertiser*, Oct. 9.)

Sheffield Horticultural Society.—*April 29.* The auriculas were very fine, as were the polyanthuses and hyacinths; but all the flowers that gained prizes were old favourites. It is indeed astonishing, considering how many seedling polyanthuses, &c., are raised every year in different parts of the country, that so few should be found of great and permanent merit, and how constantly we find recurring the names of old favourites, such as Grimes's privateer, Col. Taylor, Taylor's glory, &c., in the prize lists. (*Sheffield Iris*, May 5.)

May 27. The exhibition was of a highly interesting character; and the fact was fully established that, since the commencement of the Society, very great improvement has taken place in the cultivation of both fruits and flowers, as well as vegetables. (*Derbyshire Courier*, June 6.)

June 24. The plants were select, but not numerous. The display of fruits was the finest we ever saw, particularly those from the gardens of Earl Fitzwilliam, and the Earl of Surrey; and those shown by Mr. Mearns and Mr. Butcher. A very beautiful specimen of a coiled vine was exhibited by Mr. Mearns, propagated on his improved system, in February last, and bearing several bunches of grapes; and a plate of very fine cherries was exhibited by Mr. R. Waterhouse. The vegetables were, as usual, very fine, and well grown. The rhubarb exhibited by Mr. Taylor, which gained the first prize, measured, in the length of one stem and foliage, 6 ft. 4 in.; the breadth of the foliage was 3 ft. 8 in.; and the weight of one stem, 3 lb. 7½ oz. The display of ranunculuses was very beautiful, and they were greatly admired for their superior growth. Mr. Green succeeded in obtaining the pan. The pinks and roses were but few, and of indifferent quality. (*Sheffield Mercury*, June 27.)

York Horticultural Society.—*April 29.* The flowers, fruits, and vegetables were all very good, and were so well arranged as to appear to the best advantage. (*Hull Advertiser*, May 1.)

May 27. One thousand specimens of beautiful seedling pansies, and some seedling mimulus, were exhibited, from G. L. Fox, Esq., of Bramham Park. There were also flowers of four species of *Passiflora*, from John Smith, Esq., of Grimston. (*York Chronicle*, June 2.)

Hunslet Florists' Society.—This was a dahlia show, and the first prize was allotted to Mr. John Kearsley of Woodhouse Hill. (*Ibid.*, Oct. 8.)

Bedale Horticultural Society.—*April 25.* The auriculas, polyanthuses, hyacinths, &c., were very fine, and were very much admired. (*York Herald*, May 2.)

Whitby Floral and Horticultural Society.—*April 28.* The auriculas exhibited, and particularly those to which prizes were adjudged, were remarkably fine; the hyacinths were also very fair; but the polyanthuses had suffered severely from the coldness of the weather; and from the rain and snow which had fallen during the previous week. In reference to the floral productions of Whitby, the locality of the town should always be borne in remembrance, situated, as it is, on the borders of the ocean, and exposed to the withering influence of Boreas and Eurus. Some gooseberries were shown, belonging to Newby Duck, which were deemed worthy of a prize by the judges, though not on the list for competition. The attention of the company was also directed by the chairman to some excellent specimens of seedling pansies, kindly sent by Mr. Finnerman, gardener to the Earl of Mulgrave; some stocks by Mr. Willison; and a few other plants, not exhibited for competition. (*Ibid.*)

Malton Floral and Horticultural Society.—*April 28.* This Society has been

lately established, principally through the influence and exertions of Mr. Slater, nurseryman at Malton; and we sincerely wish it success. The show was an excellent one, and the specimens exhibited were very much admired. (*York Herald*, May 2.)

THE CHANNEL ISLANDS.—*Guernsey Horticultural Society.*—April 30. The show of plants, flowers, fruits, and vegetables was not so extensive as on former occasions; but the cottagers' show of vegetable productions, such as early potatoes, green peas, cabbages, asparagus, &c., was a decided improvement on last year's exhibition. The flowers were principally annuals. (*Guernsey Star*, May 4.)

July 16. This was a brilliant exhibition. A dwarf vine with ripe fruit, a plate of beautiful grapes, and a fine plate of gooseberries, sent in by Mr. J. S. Brock, were particularly worthy of commendation. Mr. James Barbet, sen., sent various yellow seedling picotees of a beautiful description; and Mr. Wm. Mellish a seedling white ground picotee. There was a plate of beautiful Turkish cherries sent in by Mr. John Arnold, that would have been a credit to any similar exhibition. We cannot omit noticing the exhibition of Nutt's improved bee-hive, containing about 50,000 bees, that was sent by Mr. Daniel de Putron; nor can we pass over in silence the superiority of the honey produced in those hives to that of the old cottage hives. The specimens produced on that occasion from both formed a most striking and perfect contrast to each other, not only in appearance, but especially with respect to the quality. The carnations, picotees, calceolarias, &c., were very fine; as were the fruits and vegetables. Among the fruits were ripe apples of 1835, and apples kept from 1834, on the same dish. (*Guernsey Comet*, July 20.)

Oct. 8. The show of flowers, fruits, and vegetables was remarkably fine. We noticed a gigantic yucca, from T. Carey, Esq., of Rozel; a very beautiful seedling from the *Schizanthus pinnatus*, belonging to Sir T. de Saumarez; a collection of dahlias, by Mr. R. Luff; a seedling do., and a royal pearmain apple, by Mr. James Barbet, sen.; plate of medlars, by Thomas Carey, Esq. (Rozel); a plate of golden drop plums, by Mrs. du Feu; and six remarkably fine pears (the Duchesse d'Angoulême), the property of John S. Brock, Esq., the largest of which weighed 29½ oz., and the others not less than 20 oz. each. A fine plate of Travers apples, gathered in 1834, by Harry Dobree, Esq., excited universal admiration on account of their fine state of preservation, they looking as fresh as if they had been gathered this season. (*Ibid.*, Oct. 12.)

The Agricultural and Horticultural Society of Jersey.—April 22. The room displayed a most beautiful collection of exotic plants and flowers, arranged with the utmost taste by Mr. Hodges and Mr. Saunders. Among the exhibitions were splendid collections from the green-houses of Messrs. Robin, Dupré, Duhamel, De Quetteville, Simonet Cuming, Hodges, John Benest, &c.; and the nurserymen, Messrs. Saunders, Peter and René Langelier. Eight lemons, from Mr. Lemprière (de Rozel), were very much praised; as were six oranges and a dish of strawberries, and some well-grown kidneybeans, from the houses of Mr. Poingdestre of Grainville House. The winter apples exhibited by Mr. James Hammond were particularly good; and this gentleman and Mr. Duhamel exhibited very fine bundles of asparagus, though the vegetables generally were by no means good. There were only three cottagers who gained prizes. (*Jersey Times*, April 24.)

Sept. 2. On this occasion we were glad to notice one prominent improvement, namely; the extent and excellence of the cottagers' exhibition. Indeed such has been the effect of the Society's patronage, that the products exhibited by the cottagers excelled in many particulars those of the gentry.

At the dinner which followed the exhibition, Col. Le Couteur, in rising to propose a toast, observed:—“The Agricultural and Horticultural Societies now spread over the country were very numerous and flourishing; but it was never to be forgotten that they had all emanated from one parent stock. The London Society had, in fact, given birth to all the others, and merited on their part that filial respect which was due from the offspring to the parent. He

had had the advantage of frequent conferences with *Dr. Lindsay, the president of that institution*, from whom he had derived valuable advice and instruction. Amongst other things, Dr. Lindsay [? Lindley] proposed making Jersey an intermediate nursery for the introduction of foreign plants into England, the climate of which was unfavourable to the idea of the direct introduction of plants, which, by first becoming naturalised to the more moderate climate of Jersey, might ultimately be transplanted to England with the happiest effects. Col. Le Couteur concluded several other observations on this subject by proposing the Agricultural and Horticultural Society of London; which was drunk with three times three. The plan mentioned was also proposed, many years since, by Dr. Macculloch in the *Caledonian Memoirs*; but no attempt, we believe, has ever been made to carry it into effect. (*Jersey Press*, Sept. 4.)

Oct. 14. Among the competitors was Mr. Wilmot of Isleworth, who gained a prize for fruit; and among the articles shown was one of Huish's bee-hives, there being two manufactories for the construction of these hives at Guernsey. There was an excellent display of cottage products, particularly fruits and vegetables. The exhibition of vegetables in general was superior to any preceding one, and proves what emulation and liberal encouragement can produce. Among the fruits was a seedling apple raised by Mr. Saunders, and called Saunders's Jersey pippin. (*British Press*, Oct. 16.)

WALES.

WALES.—*Swansea and Neath Horticultural Society*.—June 25. There were several rare and valuable plants in the room, but not, we think, so full a collection of fruits or flowers as at some former meetings, nor was the company so numerous. The Censor, from Mr. Maule's, was prevented attending by the Bristol steamer being incapable of performing her voyage and putting into Cardiff, by which the exhibition lost a valuable collection of pinks and ranunculuses, and other things, which Mr. Maule had sent to decorate the room, and which had to go back from Cardiff to Bristol. Mr. Vivian, M. P., and Mr. J. D. Llewelyn, were the most successful candidates. The latter gentleman obtained the challenge silver box. (*The Cambrian*, July 4.)

Aug. 4. L. W. Dillwyn, Esq., M. P., — Vivian, Esq., M. P., and Mr. Llewelyn, obtained the principal prizes; and the last again gained the silver box. The cottagers' prizes were numerous and very good. (*Ibid.*, Aug. 33.)

Sept. 24. Mr. Miller of the Bristol Nursery sent a pheasant, formed completely of flowers; and much credit is due to the arranger of this curious ornament: the beak was part of a yucca leaf; the comb, globe amaranthus; the eye, coreopsis; the neck and body, viola; the tail, German asters and *Bouvardia triphylla*, with the *Stipa pennata*, or feather grass, for its extreme end, and also on its crest; making one of the prettiest things we ever saw. The bird stood on a stand of moss with crimson asters around it. Col. Cameron exhibited 12 varieties of grapes, some of which were particularly fine. Mr. Dillwyn, Mr. Vivian, and Mr. Byers were the most successful candidates; and Mr. Vivian obtained the challenge silver box. The cottagers' collections were numerous and exceedingly good. (*Ibid.*, Oct. 10.)

Anglesea Horticultural Society.—Aug. 6. This was the first exhibition of the Society, and nothing could exceed the elegant and imposing effect of the meeting. It was numerous far beyond expectation, and might be said to comprise all the ladies and gentlemen of rank and influence in the neighbourhood. The room was most beautifully decorated with foliage and flowers; and for the taste and elegance with which these, as well as the different kinds of flowers, fruits, and vegetables for exhibition, were arranged, great praise is due to the secretary, Mr. R. Prichard, and to Mr. Shaw, gardener at the Fryars. For the purpose of gratifying the company, and without any view to competition for prizes, a vast number of bouquets and pots of flowers were sent by different individuals. Among the fruits we may particularly notice a melon, and several bunches of black *Hamburgh* grapes, from Kinmel; pines and peaches, from Hooton; and among the flowers some pansies of exquisite beauty, from Mr.

J. Peel's garden at Tros-yr-afon. Upwards of fifty cottagers were present, and these were all generously entertained at the expense of Mrs. Fuller of Bodorgan, to whom the Society is well known to have been indebted for its origin. (*Caernarvon Herald*, Aug. 8.)

SCOTLAND.

CLACKMANNANSHIRE.—*The Clackmannanshire Horticultural Society.*—*Sept. 10.* Before eight o'clock the steam-boats had reached the shore, loaded with fruits, flowers, and vegetables, from distant gardens; and, before eleven, a great number both of practical gardeners and amateurs had arrived, with numerous articles for competition and exhibition. The potted plants were select, though not very numerous; and the specimens of dahlias, and Chinese and German asters, exhibited by Mr. Cathie, gardener to Lord Abercromby, Airthrey Castle, were most splendid. From the Alloa Nursery was sent a large quantity of fine dahlias, Chinese roses, hollyhocks, flowering shrubs, &c., which, besides adorning the walls, were tastefully arranged, so as to form an arch at the upper end of the room. Mr. Gow, gardener at Tulliallan Castle, exhibited, among other articles, many beautiful specimens of *Erica*; and the hollyhocks from Mr. Bald's garden, Carsebridge, were allowed by the judges to be superior to any in the room. From Kennet Garden a fine flower of the *Agapanthus umbellatus* was exhibited, raised in the open border, where the plant has been these six years. The display of fruits was the finest ever seen in this part of the country; and Mr. Taylor, gardener to the Earl of Dunmore, exhibited some of a superior description. Of the gourd, many fine specimens were exhibited from Kennet Garden and other quarters; one plant, containing seventeen of this fruit, all full grown, suspended from the ceiling over the central table, attracted particular notice; as did a beautiful seedling apple tree in a pot, and bearing fruit; both exhibited by Mr. William Moir, Stirling. Mr. Williamson exhibited a very remarkable cluster (29 in number) of the summer queen apple, upon a stem only 9 in. long. From Kennet Garden were sent some fine purple Syrian grapes, gooseberries, and apples; and it is worthy of remark, that, at the meeting of this Society in July, from the same garden there were *three crops* of the French crab, being for the years 1833, 1834, and 1835. The vegetables were, as usual, very fine, particularly some gigantic cabbages shown by Mr. Donaldson of the Devon Iron Works. One of these, of a smaller size, grown in a pot, was greatly admired for its elegant shape. A prize was given for the model of a moss house, by Mr. James Henderson, apprentice to Mr. David Trotter, Alloa Garden. This was of the most elegant description, being highly finished internally as well as externally, and was universally admired. (*Stirling Journal*, Sept. 18.)

Falkirk Horticultural Society.—*Sept. 11.* Some beautiful carnations were exhibited by Mr. Alexander Smith, gardener at Callander House; some dahlias by Mr. Miller, gardener at Kerse House; Mr. Smith sending, also, a number of rare exotic plants, and Mr. Miller some fine figs, peaches, and apples. Mr. Lightbody, a hatmaker in the town, exhibited a superb seedling carnation (a purple flake), which was very much admired. Some fine fruit was sent from Parkhill, particularly a splendid branch of a seedling apple tree, covered with fruit. From Carlowrie there were 300 very beautiful varieties of herbaceous plants, a basket of fine dahlias, &c. From Carriden, a basket of superior seedling apples, &c. Mr. William Simpson, Falkirk, exhibited a giant cabbage, weighing 16½ lb. (*Ibid.*)

DUMFRIESHIRE.—*Dumfries and Galloway Horticultural Society.*—*Sept. 17.* Mr. Robert Arthur, gardener at Jardine Hall; Mr. Alexander McGillivray, gardener at Closeburn; Mr. A. Killoch, gardener at Craigielands; Mr. Robert Clark, gardener at Raehills; and Mr. John Ferguson, gardener at Kirk-michael, gained most of the prizes. Extra prizes were also awarded to Mr. James Webster, Munches, for a variety of seedling potatoes, accompanied by an essay upon the late failure in the potato crops, and on the best mode of preserving them during the winter; and to Mr. A. Kellock, for thirty-four

sorts of seedling potatoes. Mr. J. Hannan, gardener at Drumlanrig Castle, exhibited a specimen of the guava fruit; and Mr. John Rankine apples from two different trees, being part of those distributed by the Society last year. (*Dumfries Courier*, Sept. 30.)

EDINBURGHSHIRE. — *Mid-Lothian Horticultural Society*. — Sept. 8. The exhibition was, as usual, splendid, though the plants sent were too numerous to be seen to advantage. Not only were the tables crowded to excess, but also the passages, allowing room only for two persons to walk abreast. From Mr. McDonald, Dalkeith Park, as many of the rarest and finest exotics as twenty-four men could carry upon handbarrows, besides a cartload, which were sent back again for want of room to exhibit them; from Melville Castle, a number of fine exotics; from Arniston, a number of heaths, &c.; from Messrs. Ballantyne and Son, nurserymen, Dalkeith, a very superior collection of the newest dahlias; from Mr. Handyside, nurseryman, Fisherrow, a very large collection of very fine dahlias; from Mr. Henderson, nurseryman, Edinburgh, upwards of a hundred sorts of fine dahlias; from Hermitage Park, collections of dahlias, and new striped French marigolds; from Whitehill, some very fine seedling dahlias; from Drum House, two very fine pine-apples, the kinds were the Enville and new white Providence; from Mr. R. Mushat, Dalkeith, some very fine jargonelle pears; from Valleyfield Bank, a very neat model of a grotto, &c. A very handsome silver medal, given to this Society by an amateur of Dalkeith, a member of committee, and one of this Society's most firm supporters, to be awarded to any lady, a member of this Society, who, at the September meeting, would produce the best drawing of a British or exotic plant in flower, was gained by Miss Mutter, Dalkeith; the drawing produced was a specimen of *Alstroemèria Pelegrina*, a native of Peru: and another similar medal, given to the Society by Messrs. Ballantyne and Son, nursery and seedsmen, Dalkeith, to be awarded to the apprentice or journeyman gardener, employed under any member of this Society, who should produce the largest and best collection of named specimens of British and exotic plants, gathered and dried in flower since the 3d of December, 1834, was gained by Mr. William Stirling, journeyman gardener, Melville Castle. (*Edinburgh Evening Courant*, Sept. 17.)

FIFESHIRE. — *Colingsburgh Horticultural Society*. — April 28. Considering the coldness of the season, this was a splendid exhibition, no fewer than six and eight competitors aspiring for some of the prizes. The Society is meeting with the most warm and friendly support from the amateur florists in the neighbourhood of Colingsburgh. Besides the articles for competition, there were presented, by Mr. Bousie, a choice collection of auriculas, &c.; by Alexander Paterson, gardener, Cambo, several auriculas, polyanthus, and primroses, &c.; and a choice collection of double anemones, by Mr. Petrie, gardener, Balcaskie. (*Fifeshire Journal*, May 2.)

Sept. 15. This exhibition was chiefly for dahlias; and Mr. Brewster, gardener to Colonel Lindsay of Balcarras, and Mr. Sadler, gardener to Robert Gillespie Smyth, Esq., of Gibliston, were the most successful competitors. (*Fife Herald*, Sept. 24.)

Dunfermline Horticultural Society. — Sept. 15. The attendance on this exhibition was quite unprecedented, upwards of 1000 persons having passed through the room in the space of two hours and a half, all highly gratified with the sight. We cannot forbear noticing the well got up design of the serpent and eagle, beautifully executed in leaves and flowers, by Mr. Fergusson of Netherton; and also the design of a summer-house, by Mr. Hurst of Valleyfield. Both did great credit to the taste and ingenuity of the exhibitors. In the list of prizes we observe the following: — For the journeyman or apprentice gardener who shall produce the best design of a flower-garden on paper, not less than 20 in. square, Mr. Thomas Blair, journeyman, Fordel. Extra prizes were awarded to Mr. Sang, Kirkaldy, for seedling dahlias; and to Messrs. Foulis, Fergusson, Hurst, and Begbie, for their bouquets. (*Ibid.*)

St. Andrew's Horticultural and Floral Society. — April 15. A lottery of the

flowers brought for competition takes place after the exhibitions of this Society; and on this occasion it seemed to give great satisfaction. Besides the articles which obtained prizes, there were presented to the Society, from Strathtyrum, several stalks of *Rhëum palmatum*, and several mimulus; and from Clayton, by Mr. Wallace, gardener to Charles Forsyth, Esq., twelve dessert apples in excellent preservation; two heads of broccoli, second best in the room; and twelve hardy spring flowers, of superior quality. A great number of sweepstakes were taken for the next meeting. (*Fife Herald*, April 23.)

July 29. The most remarkable articles exhibited were, a magnificent bunch of black Hamburgh grapes (which gained the first prize), by Mr. Smith, gardener to John Small, Esq., of the Priory; and some apples grown in the summer of 1834, by Mr. Young, gardener to Major H. L. Playfair of St. Leonard's. A magnificent plant of the *Yucca gloriösa* was presented from the garden of Mrs. Cheap of Strathtyrum, which, the gardener stated, was a cutting potted in the month of March, this year; the height of the flower stem was 7 ft., and it was thickly studded with its fine white bell-like flowers; also, thirty varieties of pelargoniums, from the garden of William Lindsay, Esq., of Feddinch; some early apples (Juneating), and some large Carolina strawberries; from Major H. L. Playfair, some very fine balsams in full flower. (*Fifeshire Journal*, August 8.)

August 2. The display of carnations was particularly grand, no less than twelve competitors contending for the prize. The dahlias were rather deficient in bright colouring and fine form, owing to the late dry weather; nevertheless, there were some beautiful new varieties. The bouquets from Strathtyrum, Cambo, and St. Leonard's, received great praise, and justly, for the forms in which they were arranged. The quality and variety of flowers, which could not be less than 1000 specimens, also reflected credit on those who produced them. On the culinary tables were to be seen several parcels of celery, blanched 18 in.; and onions, of the Tripoli kind, also measuring 18 in. in circumference; and many more fine specimens of vegetables. Among the articles which obtained prizes we find the following:—"For the best communication on the Culture of the Vine, Mr. Wallace, gardener to Charles Forsythe, Esq., of Clayton. This communication was read and approved of by the meeting, and the thanks of the Society voted to Mr. Wallace; and that it be forwarded to Mr. Loudon, conductor of the *Gardener's Magazine*, for publication in that work." [This communication we never received, or it should certainly have appeared in our pages.] There were exhibited also, from Clayton, some fine specimens of apricots, pears, apples, and apples of 1834 in good preservation, and a large flower of the shrub *Rhüs Cötinus*; from William Lindsay, Esq., of Feddinch, a splendid specimen of Lancashire gooseberries, extra large, and some, we are sure, would weigh 24 dw. t.; from Gibliston, a collection of picotees of the first class, which could not be surpassed for perfection; from Cambo, two specimens of extra-large beet root; from West Park, St. Andrew's, a number of onions of 1834, in good preservation; some very fine seedling dahlias, from Gibliston; a most splendid collection of carnations and picotees, from Mr. Low, upholsterer, St. Andrew's, which merited and drew forth great praise. (*Fife Herald*, Sept. 10.)

Cupar Horticultural Society.—*April 24.* A splendid collection of ten varieties of double wallflowers was exhibited by Mr. Ewing, from Balgonie Nursery, one of which, in particular, with large flowers of deep purple, was universally admired: it is, we believe, the newest variety of that delightful flower. Mr. Anderson, from Colonel Don's garden, Springfield, sent a beautiful bouquet of green-house flowers. Mr. Jasper Wallace, Clayton, exhibited some broccoli, the heads of which were of a very remarkable size; and Mr. William Smith, manufacturer, six apples, in a fine state of preservation. (*Ibid.*, April 30.)

June 5. Among the prizes was one for apples grown in 1834, and now fit for the dessert, which was gained by Mr. Watson of Tarvit. The general collection of flowers was small; but the tulips from Dunfermline, and the

ranunculuses from Mr. William Thompson, deserve especial notice. Immediately after the exhibition, the different articles were divided into small lots, and disposed of by lottery. This plan, though previously followed by other societies, was quite novel here, and was, we are happy to say, well received, and carried through with great success. It has the double advantage of keeping alive the interest amongst the company after the examination of the flowers is completed, and enables the conductors of the Society to divide amongst the visitors and admirers of Flora the articles exhibited, without partiality.

At a meeting of the practical members of the above Society, held the same day, a prospectus was drawn up and agreed to relative to the formation of a county competition, and which, from the general and liberal support it is receiving, will, we doubt not, be ere long fully arranged. (*Fife Herald*, June 11.)

Sept. 4. The sweepstakes for the best seedling heartsease raised from seed of 1834 were won by Mr. R. Tullis of Cupar. Extra prizes were awarded to Mr. W. James Mercer of Crawford Priory for splendid green-house plants; and to Mr. R. Tullis, for twelve double hollyhocks, seedlings of this year. The following articles were sent for exhibition:—A collection of beautiful dahlias, from Mr. Sang, Kirkaldy; six apples of last year, in fine preservation, from Mr. Jasper Wallace, Clayton; jargonelle pears, from Mr. Weir, Birkhill, and Mr. Bouchard, Edenwood. (*Ibid.*, Sept. 10.)

FORFARSHIRE.—*Dundee Horticultural Society.*—*Sept. 11.* There was exhibited a very rich and splendid collection of dahlias and hollyhocks, from the garden of W. Baxter, Esq., Ellengowan; as also an excellent variety of the former, from Messrs. Urquhart's nursery, the Lilybank Nursery, and that of Messrs. Henderson, Brechin; some fine carnations from Union Place; a fine cluster, containing fifteen full-grown jargonelle pears, from the garden of D. Martin, Esq., Roseangle; and, what attracted the notice of the fruit connoisseur, apples of crops 1833, 1834, and 1835, from the same tree, those of the former years being in excellent preservation: they were from the garden of Colonel Patterson of Cunnoquhie. (*Edinburgh Evening Courant*, Sept. 17.)

Montrose Horticultural Society.—*June 3.* Notwithstanding the backwardness of the season, the show table was graced with a variety of very fine flowers, among which we noticed some very fine tulips of the various kinds, and several superior stocks. We also remarked particularly a very fine pot of stocks, not in competition, from Brotherton. The pelargoniums were of first-rate quality, and considerable interest was excited amongst the competitors of seedlings, for an extra prize given by Mr. Charles Sharp. The circumstance of no fewer than sixteen different seedlings being presented may convey some idea of the superior quality of the successful flower, which was grown by Mr. James Reid: it was a very distinct dark variety, all the petals being of the same shade, and was afterwards named *Shárpüi*. A great many splendid green-house plants were brought forward, which added much to the decorations of the table. (*Montrose Review*, June 5.)

The show of pinks was not so large as usual; but one good pot, not in competition, we observed, marked from Seaton. The show of fruit and vegetables was equal to that seen at any former competition. One very large bunch of grapes (from Dun) was much admired. Some kept onions (from the same place) were in excellent condition. (*Ibid.*, July 17.)

Dahlia Show. The flowers were excellent, notwithstanding the great backwardness of the season, and were universally admired. A box, containing a number of these beautiful flowers from the Den Nursery, Brechin, and another from Ellengowan, were exhibited (not in competition), both of which received great praise. Of the carnations we cannot say so much, as, in comparison with the show of last year, there was a great falling off. We observed some very beautiful specimens of cockscomb; also a variety of apple trees, in pots, loaded with fruit, from Messrs. Dickson and Turnbull's nursery, Brechin. (*Ibid.*, Sept. 4.)

Sept. 25. *Extra Show of Dahlias.* Notwithstanding the stormy weather of late, the exhibition was very superior. The Messrs. Henderson of Brechin were, as usual, very rich in their display of this beautiful flower, having three stands very tastefully arranged, and all named. From Mr. Handyside of Fisherrow there was a very fine stand, which, notwithstanding the distance it had been conveyed, was in fine order. Neither of these was for competition. A remarkable specimen of the Mammoth gourd, grown at Craigo, measuring in circumference 5 ft., and weighing 63½ lb. imperial, was on the table, and was greatly admired. A prize for the best three seedling dahlias, raised from seed in 1835, three distinct colours, was gained by Mr. Hardie, Brotherton; second ditto, Mr. Lindsay. (*Montrose Review*, Oct. 2.)

LANARKSHIRE. — *Glasgow Horticultural Society.* — May 6. This was a very fine collection of heartseases, hyacinths, and other flowers, together with an ample show of exotic plants. One of the most beautiful objects, however, was a bouquet of flowers, executed in wax by Miss Tennant, 57. Renfield Street. We were also very much pleased with the exhibition of the Garnkirk Fire Brick Company, of eleven flower vases of different sizes, beautifully shaped, and having various devices on their outer surfaces. It was suggested that the largest of these would form an excellent receptacle to grow the *Gaulthéria Shallon*, as a tribute of respect to the memory of the late lamented Mr. Douglas, who introduced this fine hardy evergreen from North America, and who began his botanical career in the Glasgow Botanic Garden, under its scientific professor and able curator. (*Glasgow Free Press*, May 9.)

RENFREWSHIRE. — *The Paisley Florists' Society.* June 4. *Tulip Show.* There was a large show of flowers; and although the weather has been very unpropitious for maturing, yet, in point of fineness, they excelled the members' most sanguine expectation. The hour of show being considerably earlier than formerly, the visitors, who were more numerous than on any former occasion, had ample opportunity of viewing all the flowers with good daylight. (*The Scots Times*, June 9.)

STIRLINGSHIRE. — *April.* This exhibition was for auriculas, polyanthuses, and hyacinths; and some very fine flowers were exhibited. We observe, that Mr. James Henderson, apprentice gardener at Alloa House, gained a prize for the plan of a flower-garden. (*Stirling Journal*, May 1.)

July 7. The show, upon the whole, was very superior, embracing almost all that is rare and interesting in the flower-garden and shrubbery; and it is pleasing to witness the improving taste and care displayed by the competitors and exhibitors in the preparation of the lots for the show-room, as attention to this we consider of much importance. (*Ibid.*, July 10.)

Sept. 15. The exhibition was a very good one, and we were much gratified to observe the following: — Journeymen and Apprentice Gardeners' Prizes. Garden journal or calendar best kept: 1st, John Ewing, journeyman, Blair-drummond; 2d, Daniel Ferguson, journeyman at Ardoch House. Herbarium, best arranged: 1st, Thomas Macfarlane, apprentice, Blairdrummond; 2d, James Niven, apprentice at Keir. The intelligence and care displayed in the production of these journals and herbariums reflect the highest credit on the youthful competitors. Among the articles exhibited were, from Cardross and Coldoch, apples of the crop of 1834; from Keirfield, a small bunch of Keswick codlin apple with 30 fruits; from Mr. John Christie, Causewayhead, grapes raised in the open air; from Mr. Edmonstone, Stirling, dahlias and fruited yew plant; from Miss Hepple, artist, flowers of the *Camellia japonica*, beautifully done in wax; from John Cowan, with Mr. Ramsay of Barnton, a rustic table and two rustic chairs of elegant form and superior workmanship; from Drummonds' nursery and agricultural museum, a collection of dahlias and other flowering plants, black tea plant, gourds crop 1834, with an assortment of garden vases, ornamental flower-pots, and garden chairs. These specimens, including the garden furniture from Sauchie, having been appropriately placed on the green, added much to the novelty and interest of the exhibition. (*Ibid.*, Sept. 18.)

Plean Horticultural Society. — May 3. This was the first meeting of

the Auchenbowie and West Plean Horticultural Society; and it was held in the school-house, which was tastefully decorated with flowers and evergreens; and it is but justice to state that, in the construction of the bouquets of flowers for competition, much architectural genius was displayed in the arches, columns, domes, &c., of which they were composed, and much taste was exhibited in the combination of the various colours with which they were dressed. We may say with confidence, that the love of horticultural and floricultural pursuits is steadily increasing among the cottagers of this district, which, if properly cultivated, will add to their pleasure and happiness.

IRELAND.

Ulster Horticultural Society.—*Sept. 4.* The room was decorated with flowers and evergreens, arranged most tastefully, forming lofty arches, which rose from tables covered with fruits and flowers, of great beauty and variety. Nothing could be more imposing than the vista formed by these arches, lined with tall flowering plants, and filled by gay and ever-moving groups. Among the many novelties on the table, we were much struck with the bouquets of fruit, decorated with flowers. One of these was 3 ft. high, and covered with grapes, melons, peaches, pines, and a variety of smaller fruit. The idea was new in this country, and, we trust, will be improved upon. The remarkable size and beauty of the pines, of several species, queen, Otaheite, cockscomb, &c., struck all the visitors; and should such attention to cultivation be continued in this neighbourhood, we may hope to rival the metropolitan societies. Among other articles were, ginger (*Zingiber officinale*), by Mr. Lewis; and some splendid specimens of *Gladiolus natalensis* which were wreathed in a tasteful bouquet, prepared by Mr. Robert Middlemas (gardener to Earl O'Neil), Shane's Castle. There were also some fine grapes, peaches, and apricots, from Mr. Archibald Stewart (Mountstewart). (*Guardian*, Sept. 8.)

Belfast Horticultural Society.—*Spring Show.* A handsome prize medal, with a suitable inscription, was awarded to Adam J. Macrory, Esq., of Duncairn, for his extensive range of glass, consisting of a green-house, vinery, and peach-house; the apparatus for heating the peach-house and vinery of which is so admirably constructed as to combine the advantages of neatness, efficiency, and economy of fuel; and the arrangement of the water tanks, at the same time, to regulate the temperature so as to produce that moist atmosphere necessary to insure healthy foliage, and to afford a conveniently situated supply for the plants.

The Westmeath Horticultural Society (*April 15.*) appears to be in a prosperous state, as no fewer than twenty-nine prizes were awarded at this show for fruit, culinary vegetables, florist's flowers, and ornamental, hardy, and house plants. A list has been sent to us occupying a 4to page, which the secretary, Mr. Lyons, informs us was printed in an adjoining room to that in which the show was held, and was distributed among the visitors in not more than ten minutes after their admission.

Kilkenny Horticultural Society.—*April.* There was a brilliant display of hyacinths, roses, &c.; together with some beautiful exotic plants from Mr. Robertson's and Mr. McCraith's nurseries.

Vegetables were piled on the tables in profusion and great excellence; amongst the rest, enormous broccoli. It is really astonishing what a perfection the culture of that article, so luxurious at this season, has been brought to within these few years past. Endive, lettuce, potatoes, cucumbers, asparagus, rhubarb, &c., were also very good. Of fruits, there were strawberries of good size and quality; and pine-apples, well grown for the season. The latter fruit, obtained as it is with much trouble and sacrifice, is, after all, worthless in flavour at this period of the year. There were kitchen apples in good preservation, and others for the table, well kept, but of middling flavour; and the same may be said of the pears exhibited: the kinds were bad, one specimen (the *beurre de Ranz*) excepted, which was strongly recommended as most valuable for keeping, flavour, and productiveness. The room and pavilion were tastefully de-

corated with a Flora crowned with roses, and medallions set in flowers, and inscribed with the names of Knight, Sabine, Lindley, and Loudon; and one wreathed with cypress to the memory of the unfortunate and lamented Douglas. (*Kilkenny Moderator*, April 11.)

Aug. 20. A great number of prizes were distributed, among which were some to ladies for paintings of flowers, and some to gardeners for collections of native plants. The thanks of the meeting were voted to John Robertson, Esq., for his indefatigable exertions in behalf of the Society, and for the promotion of horticulture generally. (*Ibid.*, Aug. 22. and 29.)

Waterford Horticultural Society.—Aug. 19. Immediately at the left, upon entering, was a collection of dahlias and German asters, from the Waterford Nursery, which attracted universal admiration. There were also some splendid cockscombs, sent in by Captain English of Ringville. The bouquets of cut flowers were uncommonly splendid. Those from Kilkenny Castle, from Maypark, and from Miss Davis's garden obtained prizes. A pyramid of cut flowers (for such it really was) from Mr. Gadsden's garden was very much admired, as was another collection sent in from Ballinamona, the seat of Alderman Carew. The prize for the best green-house plants was decreed to the gardener of Mr. Barron, M. P. (*Waterford Mirror*, Aug. 15. and 22.)

ART. IX. Biography.

ANDREW HERON, Esq., of Bargally. — We took a good deal of pains to procure a biographical notice of this celebrated Scotch botanist and planter, for our *Arboretum Britannicum*; and, through the kindness of various individuals, we were enabled to furnish an account, correct in every particular, except that the present male representative of the family is the grand-nephew of Dr. Heron, instead of the grandson, as stated in our account. This gentleman, Basil R. Heron, Esq., captain in the Royal Artillery, now stationed at Gibraltar, has kindly sent us the following account, extracted from the pedigree of the family, and other documents in his possession:—

“Andrew Heron was the second son of Andrew Heron of Heron, who was member of Parliament for the stewardry of Kircudbright. He settled Bargally and other lands upon Andrew, as his patrimony.

“The family of Heron is one of the baronial families mentioned in the Battle Abbey Roll, and the first Heron recorded in British history is mentioned as being one of the followers of William the Conqueror from Normandy; from whom the various branches of the Herons of Essex and Hertfordshire, of Northamptonshire, of Cressy in Lincolnshire, of Heron of Ford, Heron of Chipchase, of Bokenfield, and others in Northumberland, sprang up.

“In the parliamentary writs and writs of military summons in the Tower of London, we find that John Heron was enrolled in pursuance to the ordinance for the defence of the seacoast, as a knight holding lands within the county of Essex, but non-resident in the county, in the 24th of Edward I., in the year 1296. In the same record the same John Heron was enrolled and summoned to perform military service against the Scots, and to muster at Berwick upon Tweed on the nativity of St. John the Baptist, 29th of Edward I., A. D. 1301.

“Sir Robert Heron, cousin of the above, was appointed comptroller of Scotland, and was summoned to parliament at Westminster on eight days of the nativity of the Virgin, viz. 15th of September, in the 33d of Edward I., A. D. 1305.

“William Heron, knight of the shire, returned for the county of Northumberland; to join the parliament at Westminster in three weeks of St. John the Baptist, 15th July, 18th of Edward I., and in the year 1290. The same William Heron summoned to perform a knight's military service in person

against the Scots, and to muster at Norham in six weeks of Easter, viz. 3d of June, in the 19th year of Edward I., A.D. 1291. The above William Heron took with him his younger brother David, who was the founder of this branch of Heron of Kirouchtree, but commonly called Heron of Heron. David was rewarded by King Edward, for his services, by a considerable grant of land, situated between the rivers Dee and Cree, which at the time formed a hunting district belonging to Baliol. Kirouchtree and Bargally formed a part of it; and the former has ever since remained in the family, and is now the property of Lady Heron Maxwell, the daughter and heiress of Patrick Heron, Esq., who was member for Kircudbright, and who married Lady Elizabeth Cochran, the daughter of the late Earl of Dundonald. Lady Heron Maxwell married Sir John Shaw Maxwell of Springkell, in Dumfriesshire, and has issue.

“Many members of the family held high office under the crown, and were in parliament; and, in the reign of King William, the Heron estate was erected into a barony through the interest of Lord Tullibardine, who was the king’s secretary.”

The above extracts are taken from the family genealogy, and the authorities on which they are formed are at this day in the records deposited in the Tower of London.

It is greatly to be regretted that many interesting official records and local documents concerning the old families in Galloway, which were, in times of political convulsions, deposited for safety in Galloway House, the seat of the Earls of Galloway, were destroyed when that celebrated mansion was burnt down many years ago.

The only remaining male heir to Heron of Heron and Heron of Bargally is Basil R. Heron (great-grandson to Andrew, the founder and planter of Bargally), at present a captain in the Royal Regiment of Artillery. In 1819 he married Catherine, daughter of the Hon. Justice Mayne, one of the judges of the Court of King’s Bench in Dublin, and has issue three daughters. At the death of Captain Basil Heron, should he not leave a son, the male branches of Heron of Heron and Heron of Bargally will be extinct.

By a paper in the handwriting of Captain Heron’s father, it appears that Andrew Heron, the subject of our notice, was married twice; first, to Jane Graham, by whom he had issue. His first wife, the above Jane Graham, was a relation of the family of Sir James Graham of Netherby in Cumberland. Finding the state of widowhood disagreeable, after several years he married, secondly, the relict of John M’Kie of Largo, in April, 1708, who was his cousin-german, by whom he had no children. His character is thus drawn in the paper attached to the genealogy above alluded to:—“He was a man of no common genius. His fortune was very easy for the times in which he lived, and it was spent in doing good and giving employment to the poor. He was a man of refined taste and great morality, was well informed, and had taken care to cultivate, by travel and by reading, the talents which he naturally was endowed with. His father was in parliament; and, though, on his father’s death, urged to enter political life, he resolutely refused it. Botany and husbandry seem to have been his principal pursuits. His counsel and advice were sought by people of all ranks; he was the peacemaker and arbiter of the neighbourhood, the staunch protector of the poor and the oppressed, and the firm but just object of terror to the guilty. The common observation was, in his day, that he was an example for country gentlemen, which they would do well to follow.”

It is known that he had travelled much, and was well versed in the Continental languages. His son (the eldest), who entered the army in Lord Mark Kerr’s regiment, then in the West Indies, rose to the rank of colonel, and was governor of the province and town of Annapolis Royal in Nova Scotia. One of his nephews (Benjamin) was secretary to the state of Maryland in America. His son John was a merchant of great eminence and connexions; and all these circumstances, combined with his own large acquaintance, naturally

facilitated the favourite pursuit of collecting trees, roots, fruits, and flowers, from foreign countries. His niece married Dr. John Buckner, late Bishop of Chichester; and her sister died unmarried, in the year 1810, at Chichester; a woman greatly beloved, and particularly famed for her proficiency and taste in music: she was an intimate friend of Hayley the poet. Dr. Andrew Heron, his son, and the last Heron who owned Bargally, was brought up to be a physician, and took his degree as such; but he was addicted to pleasure, and was too idle to practise: he was deeply involved in law, and soon got deeply involved in debt. His creditors sold Bargally to Mr. Hannay, a brother of Sir Samuel Hannay of Kirkdale, who was not very rich; and, in consequence, he cut down the greater part of the valuable and ornamental timber, and made the place very different indeed from what it was in 1729, the year of the original proprietor's and planter's death. It is understood that the timber which Mr. Hannay felled very nearly paid the purchase money which he gave for the estate. If the creditors, or their attorneys, had had the decency to give notice of the intended sale to Dr. Heron's relations, who were residing in England, Bargally would now have been the property of a Heron. Dr. Andrew Heron died in retirement in the year 1793: he was never married.

In 1792 Mr. Hannay sold Bargally to John Mackie, Esq., in whose possession it remains. He has had the good feeling and taste to repair old Andrew Heron's tomb, in which the remains of Andrew and his first wife are deposited, and to protect it with a fence and some trees.

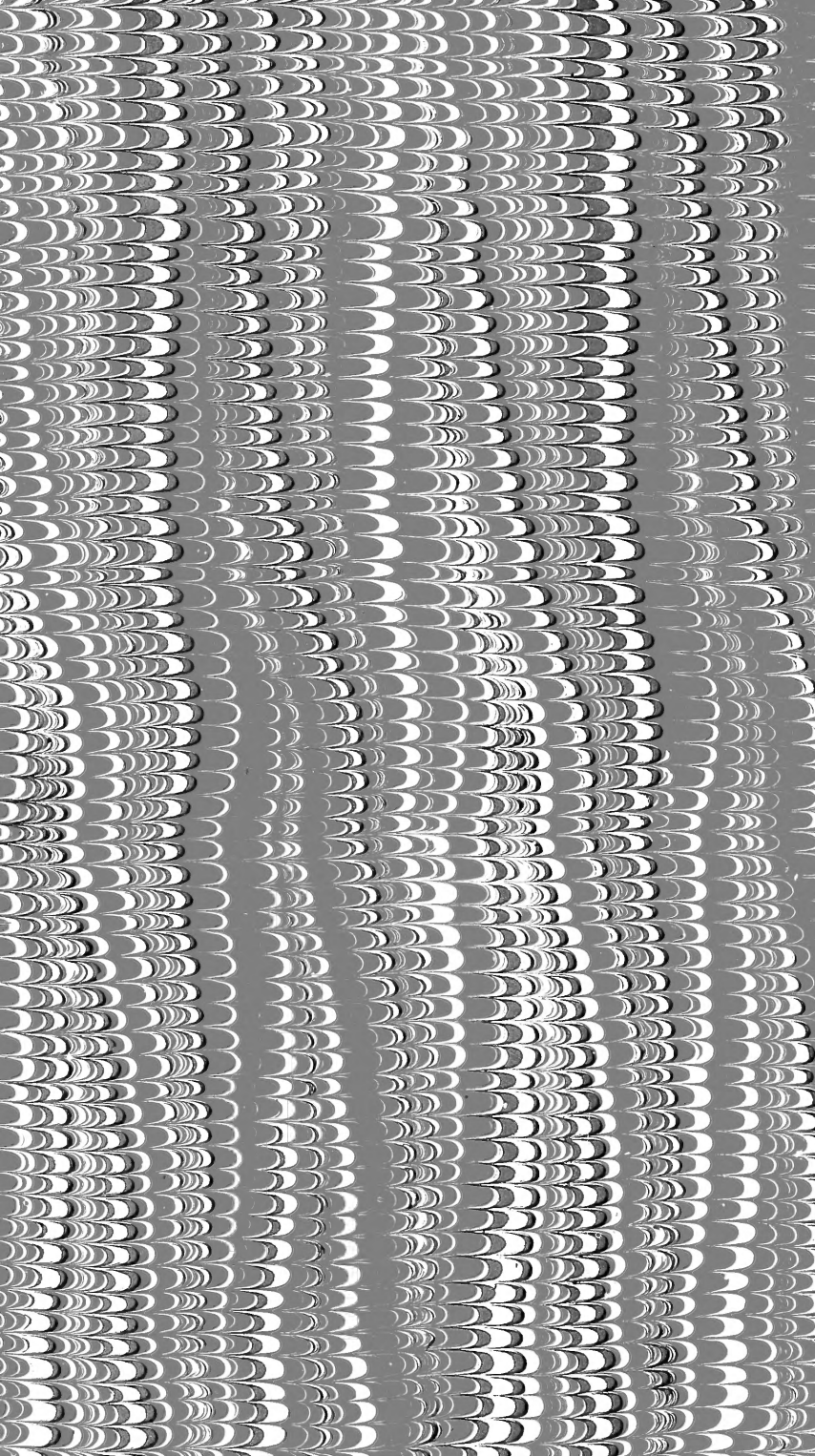
The old house of Bargally, in which Andrew Heron resided, no longer exists; a small one has been erected at some distance from where the old house stood. The present house is small, the rooms very low, and the style not at all conformable to the situation, or what a person of good taste would have planned: it was built by Mr. Hannay.

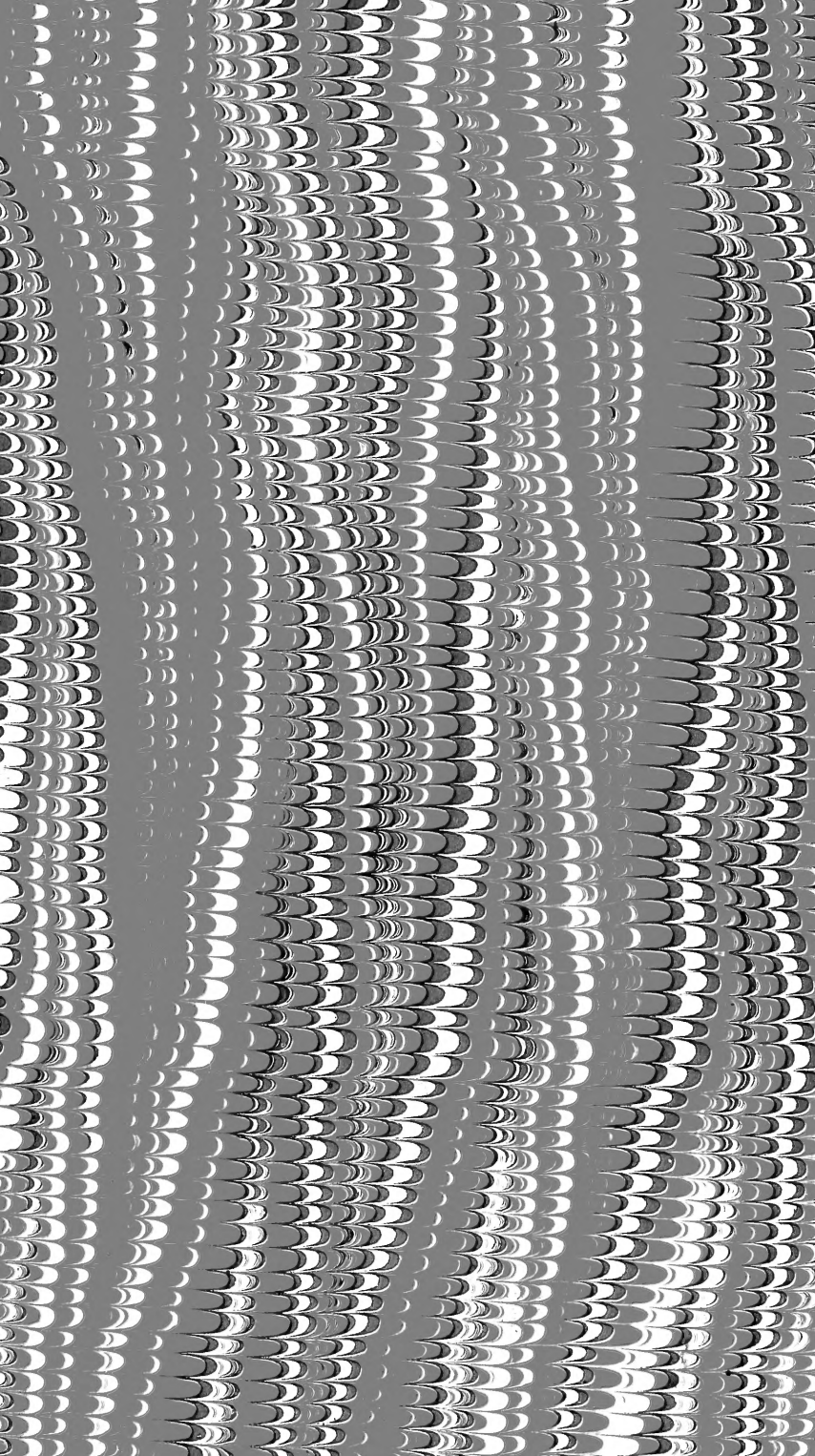
There is an excellent garden, possessing great capabilities; but the oleanders, the citron trees, the pomegranates, and the rare and choice flowers, which were to be seen at Bargally in 1729, are gone. There still remains a large evergreen oak, together with some of the finest beech, ash, firs, hornbeam, and variegated hollies, in the grounds, some of which mark the ancient divisions of the garden, to perpetuate the memory and good taste of the good old original proprietor and planter. — *B. R. H. July 17. 1835.*

ART. X. Obituary.

DIED, on the 13th of September, *William Malcolm*, Esq., F.L.S. H.S., &c. the eminent nurseryman at Kensington. Mr. Malcolm had been in an indifferent state of health for above a year; but such was his activity of mind, that he could not resist the desire to make his annual commercial journey. He died at the house of his brother-in-law, the Rev. Dr. Mitchell, minister of Kemnay, Aberdeenshire, and was buried in the family vault in the churchyard there. Mr. Malcolm was in his sixty-seventh year. He was considered, by his brother nurserymen, as one of the very first men of business in his line; and, by gardeners, as one of their best friends. In Malcolm's Nursery there was always a better chance than in most others for a young stranger from the country to get employment. The nursery was always kept in the very highest order; and both the articles in it, and in the seed department, were the best of their kinds. Mr. Malcolm left no son; but the business, it is believed, will be carried on by his brother Henry.







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